A GUIDE FOR STATES TO ASSIST IN THE COLLECTION AND ANALYSIS OF MEDICAID MANAGED CARE DATA

Second Edition

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HCFA/CMSO
7500 Security Boulevard
Baltimore, MD 21244
Contract #500-92-0035

Prepared by:

The MEDSTAT Group, Inc.
5425 Hollister Avenue, Suite 140
Santa Barbara, CA 93111-2340

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TABLE OF CONTENTS

LIST OF APPENDICES

* These appendices were downloaded directly from varied websites. Consequently, they could not be converted into WordPerfect format. If users of the guide are unable to access Adobe Acrobat or HTML formatted files, they should contact their HCFA representative for a hard copy.

I. INTRODUCTION: THE VALUE OF ENCOUNTER DATA UNDER MEDICAID MANAGED CARE

A. THE "NEW WORLD" OF MEDICAID MANAGED CARE

When a State adopts a managed care strategy for its Medicaid program, it changes the historical relationship it has had with its beneficiaries -- the Medicaid recipients -- and with its service providers -- the hospitals, physicians, and other health care professionals. These changes are multi-faceted and complex.

Under the traditional fee-for-service system, Medicaid beneficiaries had the freedom to receive care from any and all providers who were willing to accept them as patients. Furthermore, beneficiaries could change providers at will. The Medicaid agency scrutinized the quality of these providers on a regular basis, but this scrutiny was supported by the knowledge that recipients could easily "vote with their feet" if they were dissatisfied with a particular provider. This freedom and flexibility reduced the Medicaid agency's direct responsibility for access and quality. In fact, the Medicaid agency acted very much like an employer; it made a benefit package and payment available to its recipients, but usually did not intervene in how and when these services were used.

Furthermore, under the traditional fee-for-service program, providers knew the expected level of Medicaid reimbursement. If they chose to treat Medicaid patients, they submitted claims for these services and, in time, received payment. Medicaid agencies reviewed these claims looking for fraud and abuse and monitored quality using a traditional medical review process.

Medicaid managed care, however, introduces a new cadre of players -- the managed care organizations (MCOs). MCOs are paid prospectively with an expectation that their contracted providers will provide adequate access and high quality services when needed. In many managed care programs, Medicaid recipients are "locked-in" to a particular MCO and must receive all of their care from that MCO. While recipients can usually switch MCOs if they wish, choice may be extremely limited. In any one area (city, county) there may only be two MCOs.

These two fundamental characteristics, restricted freedom of choice and prospective MCO payment, have increased the Medicaid agency's responsibility to monitor the services for which it has contracted. The Medicaid beneficiary is therefore more dependent on the Medicaid agency to select and oversee the provider networks with which it contracts.

The process of monitoring and managing managed care organizations requires information. Medicaid agencies have historically relied on **claims data** from their Medicaid Management Information Systems (MMIS) for policy development or decision making. Available information has been used primarily for fraud and abuse detection, or standardized reporting such as that from the Medicaid Surveillance Utilization Review System (SURS) and Management Administrative Reporting System (MARS). More in-depth or complicated analytical work such as that associated with access and quality of care studies has been performed primarily through surveys and medical record review.

The primary healthcare information resource of the managed care industry is **encounter data**. Encounter data are records of health care services that have been provided to patients. Many states require MCOs to submit encounters to document the services they have provided in return for their capitation payments. This, in turn, confronts MCOs with the task of collecting accurate and complete encounter information from their providers.

Encounter data collection and analysis, however, can be difficult for a number of reasons:

- Many Medicaid agencies do not have a clear plan for how they will use encounter data because they have not fully developed the "structure, process, and outcome" approach to evaluation that is necessary in a managed care environment.
- With the transfer of risk through capitation, there is less financial incentive for capitated providers to document service use. As a result, encounter data submission by providers is often incomplete.
- Some managed care organizations have not developed the technological infrastructure necessary to reliably process and manage encounter data.
- Medicaid agencies trying to move quickly into managed care often overlook the complexity of issues surrounding the incorporation of encounter data into the rest of their administrative information (e.g., fee-for-service claims, eligibility, provider files).

Encounter data can be a powerful source of information for States and managed care organizations. They can be used for many purposes—for example to monitor quality of care, to monitor program integrity (service underutilization, access to care), and to update and evaluate capitation payment rates. When combined with other data sources, the value of encounter data increases significantly.

B. MONITORING MANAGED CARE PERFORMANCE USING ENCOUNTER DATA

1. New Measures Of Program Effectiveness

Managed care requires new measures of program effectiveness since the traditional relationship between patient and provider has changed. Under the fee-for-service system, Medicaid beneficiaries had the freedom to receive care from any and all providers who were willing to accept them as patients. Beneficiaries could change providers at will. While the Medicaid agency scrutinized the quality of these providers on a regular basis, it was not the primary focus of their provider review. More important reviews were done on fraud and abuse relating to billings.

Now the Medicaid agency must monitor access and quality of care by new means. Under the capitation payment systems characterizing most managed care systems, providers are faced with financial incentives to minimize service delivery. As a result, Medicaid managed care must find a way of measuring program effectiveness that goes beyond simple monitoring of service volume and measures the outcomes of service delivery as well.

a) From Inspection To Outcomes

Traditional Medicaid agencies have assessed the care received by beneficiaries primarily by inspecting the providers for fraud and abuse. They have looked for instances of services billed but not provided or for over-provision of services. Most of this review has been achieved by comparing provider experience to norms and identifying "outliers."

Managed care requires a new set of program effectiveness measures. MCOs will be held accountable for achieving specific goals, some process-related, some outcome-related, and Medicaid agencies will need to identify these goals. Some performance goals are "easy" to identify, such as immunization rates, but others are more difficult, such as the treatment of pediatric asthma. Simply counting the number of pediatric asthma hospital admissions is not a measure of quality care for these patients. Failure to admit a patient to the hospital when needed may in fact be an indication of restricted access. Medicaid agencies will have to specify measures that will link services and patients by condition or over time. Just as managed care focuses on the total patient from prevention to cure or stabilization, so managed information and assessment must take a similar view.

b) From Purchaser to Partner

In the fee for service environment, providers were enrolled individually in the Medicaid program. The managed care organizational model changes the relationship with providers. Instead of negotiating with thousands of providers, the state may be dealing with less than ten MCOs; however, these organizations are the entree to all the providers in the state. Losing a single MCO may mean losing access to hundreds of physicians.

MCOs need to understand and agree to the State's contractual requirements, while playing a valuable role as the conduit to providers. Under managed care, the MCOs assume many of the functions (regarding provider contracting and oversight) that were previously performed by the State. To ensure appropriate provider access and management, the State needs to view its relationship with MCOs as a partnership. While the Medicaid agency must require the MCOs to submit full encounter information, it must also be willing to share this information with the MCOs and have the information externally validated to the satisfaction of both organizations.

c) Development And Education Of Providers And Consumers To Ensure Adequate Care For Vulnerable Populations

Because Medicaid is by definition the medical insurance program for the poor and medically needy, Medicaid Managed Care must be configured to meet the unique needs of these populations. Many states are beginning their managed care implementation by covering TANF (formerly AFDC) populations, since these recipients have health care needs closest to those of traditional MCO members. However, while the health care problems of pregnant women and children may be similar to the populations MCOs have historically treated, the social and cultural issues of Medicaid beneficiaries can be very different. Issues associated with transportation,

communication, compliance, and grievance are very different. The MCOs need to be ready for these issues.

For Medicaid, the real challenge (and greatest potential for cost savings) will come from the inclusion of the disabled and other special populations in managed care. These individuals account for much higher average expenditures than traditional MCO enrollees do, and traditional managed care organizations have very little experience treating such individuals.

Disabled persons and other members of vulnerable populations often have long standing relationships with providers who understand their unique problems and have crafted care plans that maintain the stability of these patients. Disruption of these relationships can be extremely costly for both patients and the Medicaid agency; substituting one provider for another may have dramatic results in terms of patient care, yet these providers are the least likely to be enrolled in MCOs.

As Medicaid agencies enroll vulnerable populations in managed care, they use the historical information available to assist in rate setting, provider selection, and benefit determination. Once these populations have been included in managed care, however, the Medicaid agency must rely on the encounter information generated from the managed care organization to monitor and evaluate access and quality of care. Since MCOs have so little experience with these populations there is great risk of reduced access and poor quality. Review of the encounter data will have to be bolstered with on-site medical record review. Medicaid agencies may also choose to identify specific beneficiaries in its programs who are known to be extremely vulnerable and track them on an individual basis to ensure that the transition to a managed care environment is successful.

2. The Role of Encounter Data In Program Management

a) The Medicaid Information Environment

While encounter data can be used as a stand-alone data source, they are but one component of a larger set of information needed to effectively manage a Medicaid program. States commonly use many additional sources of data in program management, including:

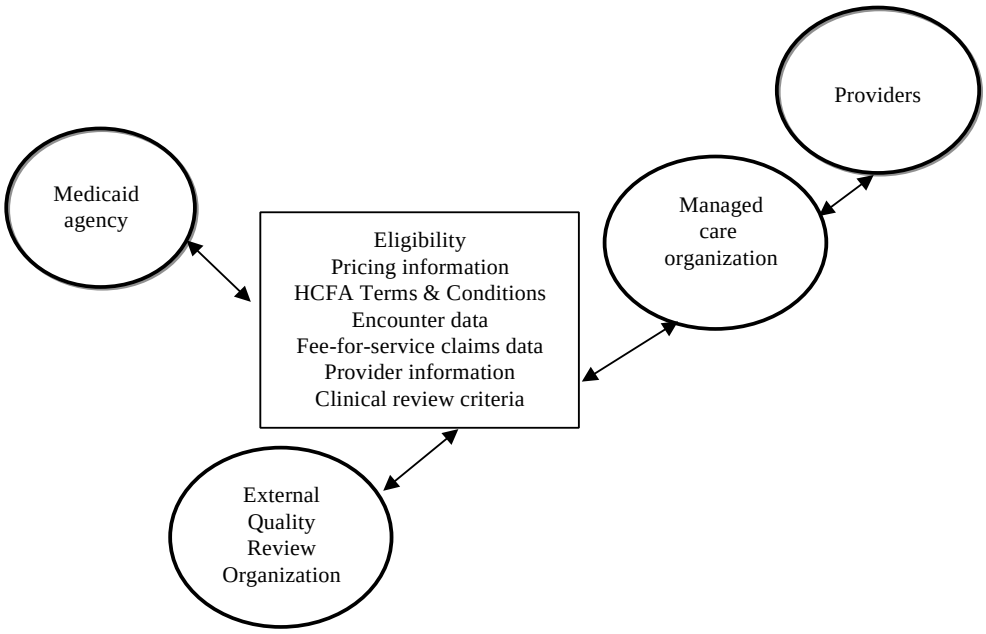
- Program enrollment and eligibility data
- Pricing data
- Claims data
- Financial reports from MCOs
- Logs and counts of grievances, complaints, and hot line calls
- Audit reports
- EQRO studies
- Enrollee satisfaction surveys
- Provider satisfaction surveys
- Vital statistics
- Immunizations registries
- State hospital discharge databases.

Encounter data furnish the most complete account of services delivered to enrollees in managed care. Each state should strive to integrate encounter data into the total information suite needed to design, manage, and evaluate the entire Medicaid program.

Exhibit I-1 shows the four primary players in the information process: the MCOs, provider groups, the Medicaid agency, and the External Quality Review Organization (EQRO). Each entity has a core set of information that must be developed and exchanged with the other entities. It is the inter-linking of these (often) independent information sets that makes it possible to monitor, manage and evaluate Medicaid managed care programs in a comprehensive manner.

EXHIBIT I-1

Key Players In The Information Process



b) What Analyses Are Encounter Data Used For?

There are many ways to answer the "why" of encounter data collection. We present a few suggestive scenarios here; many others are contained in the appendices.

Scenario 1: Quality/Program Implementation. The State's EQRO contractor is poised to begin focused reviews on the quality of care provided to pediatric patients with asthma.

The Medicaid agency provides the EQRO with a copy of its eligibility file. The EQRO uses this file to identify all children who have been enrolled in a managed care organization for at least six months. The EQRO determines that 5,000 children meet this criterion. The EQRO then links the

eligibility data to the encounter data to identify how many of the 5,000 children were diagnosed with asthma at some point during that six-month period; they find 800. They then draw a random sample of 411 of the 800 asthmatic children, and proceed with their focused quality review to evaluate the quality of care provided to those children.

The State and its EQRO are particularly interested in understanding the effectiveness of different treatment modalities. The EQRO uses the encounter data to further refine the sampling frame by over-sampling for children who were admitted to the hospital for asthma and related conditions to understand the events which led up to the hospitalization. In addition, they draw a matched sample by Provider ID to determine whether the reasons for hospitalization can be explained by differences in provider practice.

Findings from this study will be reported back to the individual MCOs so that they can incorporate the recommendations of the EQRO into their QAPI process. In addition, the EQRO and the State may make recommendations for additional patient and provider tracking which the MCOs can implement within their own organizations.

Scenario 2: Access/Program Evaluation. The state legislature has received complaints from a constituency group attesting that adolescents with serious emotional disturbances are not receiving adequate access to mental health services from Medicaid MCOs. The legislative aide needs an analysis completed within seven working days.

The Medicaid analyst uses the eligibility data to identify, for the most recent fiscal year, all MCO enrollees who qualified for Medicaid coverage through SSI. She extracts the identification numbers for those eligibles who are between the ages of 13 and 18. She then extracts all encounter data for these enrollees, and identifies which encounters were for mental health services by using the Procedure Code field on the encounter record. She calculates a rate of mental health service use per member month, and also provides a benchmark rate using the following comparative information: historical rates for similar Medicaid eligibles prior to the implementation of Medicaid MCOs, a private insurance use rate, and a benchmark from another state with a similar Medicaid program.

Scenario 3: Utilization Patterns and Quality Review. Using encounter data, the state observes a decline in the number of home health visits per elderly and disabled beneficiary and a rise in fee-for-service institutional long term care admissions. The state wants to investigate whether this utilization pattern is indicative of a systematic cost-quality trade-off among the MCOs. It samples medical records of home health beneficiaries for each MCO to examine the treatment episodes and population case mix to determine whether MCOs appeared to be providing differential levels of service for high- and low-risk beneficiaries. The state also compares encounter data with fee-for-service claims data to note any emerging differences in the case mix of the population of beneficiaries receiving managed home health services, compared to the population who are institutionalized.

Scenario 4: Rate Setting. Having set capitation rates for its risk-based managed care program using historical fee-for-service data, the Medicaid agency must develop a methodology for setting these capitation rates in future years. The state needs to estimate the “true” cost of

services provided to its managed care enrollees, in total and by MCO, to determine whether they are over or underpaying for all enrollees and whether there is a fair distribution of high cost enrollees across MCOs.

The Medicaid agency uses the Year One encounter data to estimate the cost of the services actually provided to the enrollees during Year One, and compares these costs with the capitation rates paid to the MCOs. It assigns rates to each encounter based on an inflated version of last year's fee-for-service fee schedule. The fee schedule is linked to the encounter data by the CPT procedure code on the encounter. In subsequent years, analyses of encounter data can provide input to the rate adjustment process.

The State also uses this information to determine whether it needs to introduce additional risk adjustment factors (e.g., health status) along with the other parameters already incorporated into the capitation rates (e.g., eligibility category, age, gender, geographic location). In addition, the State considers whether it should offer a risk pool for all MCOs to protect against unexpected and unevenly distributed high-cost patients.

Without the encounter data to substantiate the concerns of the MCOs, the Medicaid agency would be unable to estimate the opportunity for increased cost-savings with managed care. Furthermore, the State would not know if it were risking reduced access, especially to specialty providers, by limiting the level of payment to the MCOs.

Scenario 5: Quality/Program Evaluation. All of the contracts between the MCOs and the Medicaid agency require that the MCOs submit HEDIS measures on a timely basis (e.g., six months after the end of the contract year). The MCOs argue that the combination of HEDIS reporting and encounter data transfer places an undue administrative burden on them -- they do not understand why the State needs both types of information.

The State intends to use the encounter data to "get behind" the HEDIS measures and understand what is driving the results they see. This process should be very similar to what each MCO will do once it calculates the measures. For example, an MCO reports its measures of prenatal care: low birth-weight babies, low birth-weight deliveries at facilities for high-risk deliveries and neonates, initiation of prenatal visit, weeks of pregnancy at time of enrollment in the MCO, prenatal care in the first trimester, and frequency of ongoing prenatal care. Because the measures are not broken down by provider, region, or eligibility category, the State cannot understand what is driving the rates, or whether differences or similarities between MCOs are due to the same factors.

For instance, one MCO may have an unusually high rate of low birthweight babies because the majority of its deliveries are to very young mothers. Another MCO may have a similar rate because of poor early access to maternity care providers. Both of these MCOs might have the same score on the HEDIS measure but when the State "drills down" below the MCO-level HEDIS rate using the encounter data, it can determine the different reasons for the same rate.

In another example, one MCO's low birthweight baby population may be significantly comprised of babies with short gestation as a birth diagnosis, while another MCO may have a larger

population of babies with poor fetal growth and malnutrition, based on their ICD-9 codes. Both MCOs could nevertheless have the same score on their Low Birthweight HEDIS measure, although they have quite different reasons contributing to the same score.

Encounter data, therefore, provide more specificity and flexibility in determining the reasons for certain outcomes in summary measures such as HEDIS. The resulting actions taken to improve outcomes are likely to be more effective than had no analysis of encounter data been conducted.

C. SUMMARIZING THE KEY ROLES OF THE STATE

A State must recognize several key roles it needs to play in order to increase the chance of success. These roles include leadership, communication, and data analysis. Each of these are briefly discussed below.

1. Focal Point of Leadership

The assignment of leadership responsibility for encounter data collection and reporting is the single most important determinant of success for a Medicaid agency in its development of an encounter data program. Leadership requires not only a set of essential skills and implementation strategies, but also the ability to solicit active cooperation among the various groups within the state infrastructure that may play key implementation roles. States that have implemented successful encounter data programs have owed their success largely to their assignment of the appropriate leader(s) with such qualities.

The Medicaid agency must identify a key individual or a team of key individuals to assume leadership of its information collection, analysis and dissemination initiative. The leadership group should be representative of three areas of expertise: information science, health care analysis, and Medicaid policy. The project leader must also have strong cooperative relationships with other encounter data system stakeholders. While the leadership group does not need to be expert in all of these areas, it must understand the inter-relationship of the three parts and be able to direct and coordinate staff who have advanced skills in these areas.

Many States have chosen to assign leadership for their encounter data initiative to the information systems unit within the Medicaid program. This decision may be appropriate given the number of large and complex information systems issues that any state will confront at the beginning of this project. However, if the driving force behind the initiative does not include the eventual users of the information, the initiative will be viewed as an information acquisition project with little connection to the eventual needs of the end-users.

2. Communicating With MCOs

A continuing theme of this guide is the necessity of building open communication between the State and the MCOs. Top managers, policy analysts, and technical staff all need to interact with their MCO counterparts regularly in order to deal efficiently with issues that impact on all

parties. Communicating should start early, even before MCOs are chosen in new managed care implementations, since failure to devote enough time and resources to the planning and design task is the most common cause of problems and delays in implementing successful encounter data systems. In this guide, we suggest many ways to foster improved communications, including regular executive-level meetings, technical work groups, and technical assistance projects.

3. Using The Data In Analyses

The encounter data system is only as good as the uses to which it is put. **The key element of the planning process is to define how the encounter data system will be used in program management**. That definition sets a goal that brings into focus subsequent development activities. It is important to plan uses of encounter data in analyses that address all the stakeholders in the Medicaid program: program managers; Medicaid program analysts, with both policy and clinical orientations; executive or legislative overseers; MCOs, providers; patient advocacy groups; Medicaid beneficiaries; and the public.

B. PURPOSE OF THIS GUIDE

In September 1995, HCFA's Office of State Health Reform Demonstrations retained The MEDSTAT Group to develop tools and provide technical assistance that would benefit States with Medicaid managed care programs in the design, collection, validation and analysis of managed care encounter data. This guide is one of the tools developed under this contract. The first edition of the guide was published in 1997. This second edition of the guide emphasizes the various steps a state can undertake to ensure the timely receipt and usage of accurate and complete encounter data.

This guide begins with several ***introductory sections*** designed to provide a State with a broad perspective on the value of encounter data, as well as general areas to focus on in designing the infrastructure for encounter data retrieval and analysis. These sections include:

- **Introduction: The Value of Encounter Data under Medicaid Managed Care.** Section I has provided a general introduction to the Guide, and has emphasized the importance of using encounter data to monitor managed care performance.
- **Encounter Data: The Federal Context.** Section II summarizes changes to federal policy relating to health care information and managed care. Such policy is developing rapidly; relevant laws and regulations have changed since the first edition of this Guide was published.
- **Building a Data Collection Partnership with MCOs**. Section III is designed to help States understand the issues facing MCOs in encounter data collection, and stresses the need for a partnership approach in problem solving. We suggest several strategies for effective cooperation.

Following these sections, the Guide lays out the ***operational steps*** necessary to design and implement an encounter data retrieval and analysis system. These sections include:

- **Planning to Succeed: Designing an Encounter Data Collection Strategy**. Section IV outlines the major system elements to consider during the project design phase, and discusses common problems that States have faced.
- **Defining Data Requirements.** Section V discusses the issues surrounding the definition of data elements, and suggests strategies for overcoming common problems.
- **Options for State Data System Configuration.** Section VI discusses the pros and cons of processing encounter data through the State MMIS or through a stand-alone system.
- **Requesting and Receiving Encounter Data**. Section VII contains information that can be included in MCO RFPs and contracts to ensure that the State gets what it wants regarding encounter data.
- **Improving Data Quality**. Section VIII discusses data quality assessment, a variety of techniques designed to quantify the accuracy and completeness of the encounter data that has been submitted, and suggests strategies for resolving problems.
- **Validating Encounter Data**. Section IX outlines methods for comparing encounter data to medical records information.
- **Implementing Managed Care Performance Measures.** Section X provides examples of performance measures and industry-standard performance measure sets, and it guides the reader through their interpretation.
- **Long Term Care Encounter Data Reporting in Medicaid Managed Long Term Care Programs.** Section XI addresses the particular issues surrounding long term care encounter data.
- **Conclusions.** Section XII summarizes the State's responsibility as a purchaser of health care services, and summarizes common objections to encounter data collection along with responses to those objections.

Some States already have considerable experience using encounter data to monitor managed care; others are just beginning the process. The issues addressed in this guide are relevant to all States, since installing and maintaining an encounter data system is not a one-time activity, but an ongoing process.

Even in already-operational managed care programs, new MCOs may enter the program, MMIS systems must change over time, and there are inevitably policy changes that demand shifts in the data systems (for example, compliance with Year 2000 requirements, and, the implementation of Children's Health Insurance Program (CHIP)). Therefore, maintaining an encounter data system is not a process divided into a startup and a maintenance phase; it is rather a process of iterative development, evolution, and improvement.

A Note to Users of this Guide: For the convenience of the users, this guide includes hyperlinks and website references that are current as of this writing. Should website administrators move or reorganize sites in the future, users may need to conduct independent searches to learn the current location of some references.

II. ENCOUNTER DATA: THE FEDERAL CONTEXT

This section outlines recent developments in Federal law and regulation that influence Medicaid managed care, quality assessment systems, and encounter data systems. A full treatment of these laws and regulations is outside the scope of this guide; the aim here is to summarize the developments briefly, discuss some of the most important impacts of these developments at the Federal level, and direct the reader to more detailed information.

A. HIPAA AND ENCOUNTER DATA

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) was signed by President Clinton on August 21,1996. The Act is designed to protect health insurance coverage for workers and their families when they change or lose their jobs. The Departments of Health and Human Services, Labor, and Treasury issued interim final rules for these provisions on April 8, 1997.

Part of HIPAA deals with issues of administrative simplification in health care programs. Two issues are of particular relevance to encounter data programs: electronic data interchange (EDI) standards, and the development of uniform national identification codes for payers and providers.

1. Electronic Data Interchange (EDI)

Under HIPAA, the Secretary of Health and Human Services (HHS) was required to adopt standards for electronic, health care transactions. These are now in the process of being implemented, and comprehensive information on the standards can be found on the Web (at http://www.hcfa.gov/medicare/edi/edi.htm). While EDI is discussed in more detail in a subsequent section, a complete explication of the technical issues involved in adopting EDI standards, and their implications for encounter data systems, is beyond the scope of this guide; what is essential to note here is that the new (and evolving) standards will have significant impacts on States, MCOs, and providers, and will govern the standards for transmitting eligibility, claims, and encounter data electronically.

2. The PAYERID Initiative

The PAYERID initiative is a national program for the benefit of MCOs and employers and other health care participants in the United States. PAYERID provides a unique payer identifier that is necessary for efficient electronic data interchange (EDI) and health care administrative operations. Complete information is available at http://www.hcfa.gov/stats/npaybrf.htm. Briefly, the PAYERID program applies to the following:

- Group health plans
- Health insurance issuers
- Managed care organizations
- Medicare program
- Medicaid programs
- Medigap plans

- Long term care plans
- Employee welfare benefit plans offered by two or more employers
- Active military plans
- Veterans health care program
- Civilian Health and Medical Programs of the Uniformed Services (CHAMPUS)
- Indian health service program
- Federal Employees Health Benefit Plan
- Employers that offer self-insured health benefits.

Since the PAYERID project applies to Medicaid, encounter data systems will need to adopt the PAYERID standards as they are developed.

3. The National Provider Identifier Initiative

On May 7, 1998, the Department of Health and Human Services published the Notice of Proposed Rulemaking (NPRM) for the National Provider Identifier (NPI), in the Federal Register. **Final rules have not been adopted as of this writing, and the proposed rules form the basis of this section.** The NPRM can be viewed at http://aspe.os.dhhs.gov/admnsimp/nprm/npilist.htm. The NPI will also apply to Medicaid, and encounter data systems must plan to incorporate the standards. As yet there is no date for the implementation of the NPI; the proposed rule states that the NPI would take effect 24 months after the publication of the final rule.

4. Security and Electronic Signature Standards

On August 12, 1998, HCFA published a NPRM that proposes standards for the security of individual health information and electronic signature use by health plans, health care clearinghouses, and health care providers. The health plans, health care clearinghouses, and health care providers would use the security standards to develop and maintain the security of all electronic individual health information. The electronic signature standard is applicable only with respect to use with the specific transactions defined in the Health Insurance Portability and Accountability Act of 1996, and when it has been determined that an electronic signature must be used.

While the electronic signature standard is probably not relevant to encounter data issues, the security standards probably will cover encounter data. These regulations have not yet been made final. Further information is available at http://aspe.os.dhhs.gov/admnsimp/nprm/seclist.htm. An analysis of the interaction of these standards with existing Federal and State standards will need to be performed by encounter data system planners.

B. THE BALANCED BUDGET ACT AND ENCOUNTER DATA

The Balanced Budget Act of 1997 (BBA) authorized many significant changes in Medicaid managed care. Regulations governing these changes are still being developed and implemented by HCFA. As this guide was being prepared, the most current guide to the implementation of the BBA was the regulations proposed by HCFA on September 29, 1998.[1] **These regulations were not final at the time of writing this guide, but serve as the basis of this section.** The NPRM is available as bbamcreg.exe at http://www.hcfa.gov/medicaid/bbahmpg.htm.

The BBA regulations

> …would amend the Medicaid regulations to allow the States greater flexibility by giving them the option to require Medicaid recipients to enroll in managed care entities without obtaining waivers. These revisions, which are authorized by the Balanced Budget Act of 1997, would establish new beneficiary protections in areas such as quality assurance, grievance rights, and coverage of emergency services. They would eliminate certain requirements viewed by State agencies as impediments to the growth of managed care programs, such as the enrollment composition requirement, the right to disenroll without cause at any time, and the prohibition against enrollee cost-sharing. They would also permit State agencies to amend their State plans to require enrollment in managed care organizations subject to certain conditions, including limits on whose enrollment can be mandated, and a requirement for beneficiary choice. In addition, this rule would extend most of these new requirements to prepaid health plans.

A major portion of the proposed regulations (Subpart E) are related to Quality Assessment and Performance Improvement (QAPI) activities, and it is in connection with these activities that we find most information-related requirements. Both States and MCOs must meet new requirements relevant to encounter data-related activities.

1. Health Information Systems

The proposed rule for health information systems integrates and codifies a variety of rules, recommendations, and best practices related to managed care information systems. The relevant section is quoted here in its entirety, as each element will be discussed in more detail below in the guide.

> **Sec. 438.342 Health information systems.**
>
> (a) General rule. The State must ensure that each MCO maintains a health information system that collects, analyzes, integrates, and reports data and can achieve the objectives of this subpart. The system should provide information on areas including, but not limited to, utilization, grievances, disenrollments, and solvency.

[1] Federal Register: September 29, 1998 (Volume 63, Number 188), Pages 52021-52092. Also available from the Federal Register Online via GPO Access (wais.access.gpo.gov)

(b) Basic elements of a health information system. The State must require, at a minimum, that the MCO comply with the following:
(1) Collect data on enrollee and provider characteristics as specified by the State, and on services furnished to enrollees through an encounter data system or such other methods as may be specified by the State.
(2) Ensure that data received from providers is accurate and complete by—
(i) Verifying the accuracy and timeliness of reported data;
(ii) Screening the data for completeness, logic, and consistency; and
(iii) Collecting service information in standardized formats to the extent feasible and appropriate.
(3) Make all collected data available to the State and to HCFA, as required in this subpart, or upon request.

HCFA's overview of the regulations further clarify requirements for MCO health information systems:

> In Sec. 438.342, we are proposing that the State agency ensure through its contracts with MCOs that each MCO be required to maintain a health information system that collects, analyzes, integrates, and reports data that can achieve the objectives of this part. …Every MCO should be able to collect and integrate data from all components of its network, in order to develop a comprehensive picture of enrollee needs and utilization. Each MCO should be able to use these data in its quality assessment and performance improvement program, as well as in other management activities. Under proposed paragraph Sec. 438.342(a), we provide that the system should provide information on areas including, but not limited to, utilization, grievances, disenrollments and solvency. In Sec. 438.342(b)(1), we are proposing that the State agency ensure through its contracts with MCOs that each MCO be required to collect data on enrollee and provider characteristics as specified by the State agency, and on plan services furnished to enrollees through an encounter data system or such other methods as may be specified by the State agency. Although an encounter data system may be the most efficient means of meeting the requirements of this standard, the organization may use any methods or procedures for data collection, so long as it can demonstrate that its system achieves the objectives of this standard. In Sec. 438.432(b)(2), we are proposing that the State agency ensure through its contracts with MCOs that each MCO be required to ensure that data received from providers are accurate and complete by verifying the accuracy and timeliness of reported data, screening the data for completeness, logic, and consistency, and by collecting service information in standardized formats to the extent feasible and appropriate.
>
> Each organization must have an ongoing process for ensuring the reliability of the data, whether compiled in its own facilities or reported by outside contractors. It must have a system for comparing reported data to a sample of medical records to verify the accuracy and timeliness of reporting or transmission. It must have mechanisms to ensure that reported data contain all data elements required by the organization's standards. Standard formats are needed to ensure that data elements are reported uniformly by all providers, and that reports from multiple sources are comparable and can be reliably merged. In Sec.

> 438.342(b)(3), we are proposing that the State agency through its contracts with MCOs require that each MCO make available all collected data upon request to the State agency and HCFA.

In addition, under proposed Sec. 438.416(e), the MCO must also maintain, aggregate and analyze information on the nature of issues raised by enrollees and on their resolution, including inquiries, disenrollments, complaints, grievances, and fair hearings.

2. Certifications and Program Integrity Protections

BBA sections 1902(a)(4) and (19) require that State agencies conduct appropriate processes and methods to ensure the efficient operation of the health plans. **This includes mechanisms to not only safeguard against fraud and abuse, but also to ensure accurate reporting of data among health plans, State agencies, and HCFA.** Section 438.602 of the proposed regulations addresses the importance of reliable data that is submitted to State agencies. These data include enrollment information, encounter data, or other information that are used for payment determination. For the most part, State agencies reimburse MCOs on a capitated basis, and do not use claims or encounter data as a basis for payment. However, the collection of encounter, provider, and enrollment data will be most useful for State agencies in measuring quality performance and addressing various methodologies of rate setting and risk adjustment. The Medicaid provision of attesting to the validity of data presents an additional step in the process of data submission.

3. BBA and QISMC

The guidelines that HCFA released along with the proposed BBA regulations clarify the relationship between the BBA regulations and the Quality Improvement System for Managed Care (QISMC):

> The quality assurance provisions of the BBA espouse the same philosophy and goals for performance improvement as are reflected in QISMC. Accordingly, in implementing the BBA provision, we have drawn extensively upon the knowledge and expert guidance that informed the design of QISMC. These proposed regulations set forth actions that we view as necessary on the part of State agencies to fulfill the provisions of the BBA. The forthcoming QISMC "interim" document is comprised of standards, which will be consistent with the regulatory requirements on the State agencies in this proposed rule and on the health plans in the interim final rule for the [Medicare Choice] M+C program, and additional implementation and monitoring guidelines. Should the standards in either of these regulations change as they are finalized, QISMC will similarly change as it moves from "interim" to "final."

C. QISMC AND ENCOUNTER DATA

When we turn to the QISMC standards, the principles set forth in the BBA proposed regulations are spelled out in greater detail. The standards (available on the Web at

http://www.hcfa.gov/medicare/opl072.htm) are divided into several sections. Section 1 contains the standards that are relevant to encounter data systems and analyses. Often, the language of the standards parallels the language of the BBA regulations.

Standard 1.4.1.1 requires that topics for quality improvement projects be "identified through continuous data collection and analysis by the organization of comprehensive aspects of patient care and member services." Again, while encounter data systems are explicitly not required, having an encounter data program including feedback to the MCOs (or access to the data by MCOs) would satisfy this requirement.

Standard 1.4.2 deals with quality indicators. This section makes it clear that encounter data-based measures can be valid quality indicators under QISMC, either as process measures or outcomes measures.

Standard 1.4.3 requires ongoing collection and analysis of valid and reliable data to assess organizational performance. Encounter data systems can meet this requirement.

Standard 1.5 is the section on Health Information Systems. It requires that the MCO "maintains a health information system that collects, integrates, analyzes, and reports data necessary to implement its QAPI program." Section 1.5.1 requires that "[t]he system collects data on enrollee and provider characteristics, and on services furnished to enrollees, as needed to guide the selection of performance improvement project topics (standard 1.4.1) and to meet the data collection requirements for performance improvement projects (standard 1.4.3)."

HCFA adds that an ideal health information system would be able to generate such information as:

- Longitudinal profiles of treatment or services furnished to enrollees with a specific diagnosis;
- Profiles of referral services ordered by each primary care practitioner;
- Statistical reports on the prevalence of different conditions or diagnoses among a specific group of enrollees, such as Medicare beneficiaries; and
- Prescription medication usage by type of enrollee, by diagnosis, or by prescribing practitioner.

Standard 1.5.2 requires that "[t]he organization ensures that information and data received from providers are accurate, timely and complete." The guidelines point out that "these standards do not require that organizations receive encounter reporting. However, if the organization relies on encounter reporting or aggregate data reporting for any QAPI activity (e.g., counting enrollees who had prenatal care visits), then it must have an ongoing process for assuring the accuracy and completeness of the data, whether compiled in its own facilities or reported by outside contractors."

Pursuant to Standard 1.5.2, Standard 1.5.2.1 requires MCOs to review reported data for accuracy, completeness, logic, and consistency. Standard 1.5.2.2 also requires that service data be collected in standardized formats to the extent feasible and appropriate.

D. ENCOUNTER DATA AND THE MEDICAID STATISTICAL INFORMATION SYSTEM (MSIS)

1. Overview

The MSIS is a data warehouse of Medicaid eligibility, claims, and encounter information collected from the States. More detailed information can be found on the MSIS web page: http://www.hcfa.gov/medicaid/m2082.htm. In this section, we outline the main impacts of MSIS requirements on the implementation of encounter data systems.

In accordance with the Balanced Budget Act of 1997, all claims processed on or after January 1, 1999 must be submitted electronically in the MSIS format. “Claims” in this context include encounter data, to the extent that they are routinely received by the State. These data are used by HCFA to produce the HCFA-2082 tables for those States. These data also provide HCFA with a large-scale database of State eligibles and services for other analyses. The purpose of the MSIS project is to collect, manage, analyze and disseminate information on eligibles, recipients, utilization and payment for services covered by State Medicaid agencies. States participating in the MSIS project provide HCFA with quarterly computer files containing specified data elements for: (1) persons covered by Medicaid (Eligible files); and, (2) adjudicated claims (including encounter data) for medical services reimbursed with Title XIX funds. These data are furnished on the Federal fiscal year quarterly schedule, which begins October 1 of each year.

State Eligible files contain one record for each person enrolled in Medicaid for at least one day during the reporting quarter. Individual eligible records consist of demographic and monthly enrollment data such as the age, sex, race, basis of eligibility and the maintenance assistance status. The Paid Claims files contain information from fully adjudicated medical service related claims and encounters. Four types of claims files representing inpatient, long term care, pharmacy, and noninstitutional services are submitted by the States. These are claims and encounters that have completed the State's payment processing cycle for which the State has determined it has a liability to reimburse the provider from Title XIX funds. Paid claims and encounter records contain information on the types of services provided, providers of services, service dates, costs, types of reimbursement, and epidemiological variables.

State-supplied Medicaid files are subjected to quality assurance edits to ensure that the data are within acceptable error tolerances. Once accepted, three distinct systems are generated from the State files: (1) the Valid Tape File, (2) the MSIS Personal Summary File, and (3) the MSIS HCFA-2082 Totals File. The Valid Tape File contains the validated individual eligible and claims records submitted by the participating States. These files serve as the historical source of detailed Medicaid eligibility and paid claims data maintained by the MSIS.

The individual paid claims and eligible information are used to build specialized files for program analysis and research. The MSIS Personal Summary File represents a fiscal year to date person-specific summary of eligibility and utilization data for each participating State. This is used to address many person-oriented data studies.

The MSIS HCFA-2082 Totals File is a highly aggregated database that contains summarized eligibility, recipient and expenditure information, similar in format to the HCFA-2082 report.

MSIS data are also used to produce the State Medicaid Research Files (SMRF). The current uses of the data include:

- health care research and evaluation activities;
- program utilization and expenditures forecasting;
- analyses of policy alternatives;
- responses to congressional inquiries; and
- matches to other health-related databases.

2. Eligibility File Requirements

States must supply a unique ID for each beneficiary, and must also supply the client's SSN, if the SSN is not used as the unique ID. In each quarterly submission, the State must submit 61 eligibility-related data elements, consisting of 13 "root" fields and 16 monthly fields, the monthly fields repeat for each of the three months in the calendar quarter. Appendix C, consisting of excerpts from the MSIS FY99 data dictionary, details the record layout and eligibility categories.

3. Claims File Requirements

There are four required claims files, covering inpatient claims, long term care claims, prescription drug claims, and other claims. Claims files must include one record for each line item that is separately adjudicated; encounter records are one of five claim types, the others being medical services, capitation payments, "service-tracking" claims (e.g., for services included within lump sum payments), and supplemental payments.

4. Implications for States

States that collect encounter data will themselves be data contributors to the MSIS. Their data submissions will be subject to quality assurance controls similar to the ones they impose on their data contributors. To the extent that State requirements do not reflect MSIS requirements, States will need to transform the data in their encounter data warehouses in order to submit them to MSIS. Nevertheless, there may be very good reasons not to require data from MCOs in the same formats required by MSIS. While further consideration of MSIS is outside the scope of this guide, States will need to balance the competing demands of encounter data contributors and MSIS in their planning processes.

III. BUILDING A DATA COLLECTION PARTNERSHIP WITH MCOS

Because provider reimbursement is no longer tied to clinical data submission under Medicaid managed care, states run the risk of losing valuable administrative data unless providers and MCOs can be motivated and incentivized for clinical data submission. To be successful, States need to develop **partnership** relationships with MCOs and provider organizations to gain a better understanding of MCO strategies, practices, and problems. This section discusses issues common to many Medicaid MCOs, and presents some strategies for improving cooperation. It draws heavily on the work of Fox, Bachman, and Burwell (1998).

A. MCO EXPERIENCE

The structure of an MCO's information system is often related to the number of years it has been offering managed care products. Organizations new to managed care are not likely to have sophisticated encounter data processing systems, except for a small proportion who purchase the systems from vendors. Organizations with a traditional indemnity focus must choose between developing a new system to process managed care encounter data or modifying existing fee-for-service based systems. When faced with a large capital expenditure, such as the purchase or development of a new system, organizations may choose to adapt their current system. Organizations adapting older processing systems to handle encounter data may not be able to capture the level of desired detail on encounters compared with organizations that use systems specifically designed to process encounters. Only a few organizations currently appear to have a long-term focus on managed care and sophisticated encounter data systems.

Medicaid agencies face a special challenge in that a number of the managed care organizations providing services today are "start-ups," created solely for the purpose of serving the Medicaid population. These "start-up" organizations may have no current enrollment; they may be Federally Qualified Health Centers (FQHCs), large, integrated delivery systems, or even traditional insurers that heretofore offered only indemnity or PPO products. Each of these types of organizations will bring with it a different perspective and experience regarding operations, and specifically, information systems.

B. MCO INFORMATION SYSTEMS VARIABILITY

There is significant variability in the structure and sophistication of MCO information systems. This variability can seriously affect the availability and integrity of required data elements for conducting program management and monitoring activities. Even within an organization, systems can be integrated, feeding information into a centralized data warehouse, or fractured, with multiple systems conducting identical -- and parallel -- operations.

Multiple systems within the same organization can affect the accuracy and completeness of encounter data since data elements may not be defined uniformly across systems. MCOs often process enrollment data in one system, capitated ambulatory encounter data in another system,

hospital data (which is often fee-for-service) along with other claims in a third separate system, and pharmacy, laboratory, mental health, and radiology data in still other systems. A few MCOs have developed a data warehouse in which all information from their separate systems are merged and standardized for reporting purposes. These MCOs will be more readily able to provide data for analysis in uniform, standardized formats.

An MCO's data processing flexibility can also be affected by whether it has a national or regional focus. MCOs with a national focus process data centrally and make information system decisions at the corporate level. These MCOs have greater difficulty handling local data issues. States may also need to be aware of the challenge to a national MCO when it is asked to submit multiple types of data to different Medicaid programs if the MCO operates in multiple states. Even MCOs that are willing to comply with data mandates may find the administrative complexity of multiple data requests to be overwhelming.

The rapid pace of consolidation in the health care industry can add another layer of complexity for MCOs. When such consolidation occurs, MCOs have a choice of continuing to process data on existing separate systems, merging all data into one of the existing systems, or developing a new system.

C. MCO CONTRACTS WITH PROVIDERS

Since all encounter data originate with the provider of service, the provider's willingness to submit timely, accurate and complete information will have a profound effect on the overall quality of an MCO's encounter data system. Providers' willingness to submit data is often tied to the MCO's model type and compensation arrangements.

Typical MCO model types include staff, group, IPA and network models. Each type of model has different incentives for providers to submit data and, thus, differing degrees of leverage over providers to enforce data submission requirements. Compensation arrangements (e.g., bonuses and withholds), other non-financial penalties (e.g., disenrollment from the MCO) directly tied to the submission of data, and MCO commitment to sharing data with the provider community can be the most powerful incentives for a provider to submit timely, accurate and complete encounter data.

The different model types and their typical data incentive structures are described below.

- **Staff Model:** In a staff model managed care organization, providers work directly for the MCO and often have a salaried compensation arrangement. Although a salaried arrangement might not create a direct incentive for a provider to submit data, staff model MCOs have considerable leverage over provider behavior and can enforce data submission requirements. Such organizations may also have the ability to institute data collection at the point of service. This is especially true for staff model MCOs with a clinic type setting.

- **Group and IPA Models:** In group and IPA models, MCOs contract with medical groups and IPAs to provide care to their patients. These arrangements are often capitated. Although

medical groups and IPAs may have basic data gathering capabilities, these organizations often have the flexibility to contract with more than one MCO, thus reducing a given MCO's leverage over data submission from that provider organization. MCOs may delegate certain functions, including data collection, to a large medical group. In these situations, data quality problems may not be discovered for some time due to lags in submission. In addition, MCOs may not have sufficient leverage under the existing contract to institute wholesale changes in data submission practices.

- **Network Model:** Under the network model, the MCO contracts with medical groups, IPAs, and independent individual providers. These arrangements can be capitated or discounted fee-for-service. The network model structure offers MCOs the least control and leverage over participating providers. Providers can contract with other MCOs simultaneously or easily switch from one to another. Since provider payment is often not dependent on data submission and providers have multiple contracts, there is little incentive to submit timely and accurate encounter information to a specific MCO.

Overall, unless explicit financial incentives are part of the contractual arrangement, providers may have little reason to submit encounter-level data to an MCO, especially when payments are not tied to service delivery (as is true of capitation). Moreover, providers may have been originally promised a "no data submission" policy by MCOs if they accepted a capitation or salaried arrangement. If this policy has been in place for a number of years, it is not simple for an MCO to retroactively revoke it and require data submission. Making matters even more difficult for providers, MCOs vary considerably in the encounter data formats they require. Providers contracting with multiple MCOs have a particular challenge in submitting encounter data to all the MCOs with which they contract. A particular MCO's willingness to submit Medicaid encounter data may be related to the MCO's payer mix and relative size of its Medicaid enrollment base.

D. OTHER VENDORS TO THE MCO

The use of outside vendors for particular services creates a number of encounter data challenges for MCOs. MCOs often contract with outside vendors to provide ancillary services, typically laboratory, radiology, pharmacy and behavioral health. In these situations, the vendors are responsible for tracking data on service delivery and submitting it to the MCO. However, data submission requirements for vendors are rarely explicitly incorporated into contractual arrangements. While an MCO may receive data from vendors, these data may be of variable quality and may not meet the MCO's internal standards for data processing. Such data would most likely be excluded from the MCO's information system. In addition, vendor data may be submitted infrequently, or rarely, or only in aggregate form.

E. STRATEGIES FOR EFFECTIVE COOPERATION

1. Make Data Requirements Explicit Up Front

Probably the best way to avoid major obstacles to data collection and reporting is through explicit language that specifies data requirements in both the RFP and subsequent contracts written to obtain managed care services. Furthermore, the State should ensure that clearly stated data requirements are also included in any subcontracts that are written (e.g., provider groups contracting with MCOs and all other carve-out contractors to the State). If all parties follow the same, clearly stated, written data requirements, data transmitted from subcontractors to MCOs, then from the MCOs to the state will be more consistent since everyone will be following the same data requirement guidelines.

2. Make Data Reporting Valuable To MCOs And Providers

State Medicaid agencies are increasingly requiring MCOs to submit aggregate reports including HEDIS measures and other indicators of service utilization and quality. Yet the value of these reports for internal monitoring and quality improvement purposes is not often emphasized or demonstrated. **The more feedback states can provide to MCOs and direct caregivers that will help them manage their own services and patients, the more MCOs and providers will "buy into" the whole data collection and reporting process.** That means creating subsets of measures that speak directly to MCO and provider service management issues and which provide benchmarks for performance comparisons.

3. Streamline and/or Phase In Data Requirements Relative To System Limitations

Careful thought has been given to measuring accurately key indicators of access, utilization and quality of care within reporting standards such as HEDIS and FACCT. However, the ability of existing MCO information systems to create and report these measures is often extremely limited. Significant system enhancements will be required in most cases, especially among organizations with little leverage over providers for data submission and among MCOs new to managed care in general. Moreover, many measures contained in HEDIS and FACCT require access to data sources other than encounter records, chiefly medical records (which are usually not automated), birth and death certificates, and beneficiary surveys. The managed care industry is a long way away from integrating these external data sources into a comprehensive information system.

State Medicaid agencies and HCFA should be mindful of these information system limitations in setting data collection and reporting requirements, at least in the initial phase of managed care experience. Consideration should be given to focusing data collection and reporting requirements on measures obtainable from automated administrative data or encounter records only. Such a focus is likely to require modification of measurement specifications outlined in current industry standards. Managed care contracts should include an expansion of data requirements to include additional, more complicated measures over time, allowing for the gradual institution of necessary system enhancements.

4. Create MCO Work Groups

Work groups can be developed at a number of different points in the managed care program development process. The most logical option is to set up a series of topic-specific work groups early in the program-planning phase. These work groups should include staff from the contracted (or likely) MCOs and State officials and be tasked with specific responsibilities, such as:

- **Encounter Data Capture and Analysis**. This group could be tasked with the items addressed in Section V. This group could also be valuable as a forum for MCOs to share ideas on how to improve encounter data collection and accuracy. States should also consider using a work group as a means to feed back to the MCOs the results of encounter data analyses. Too frequently the information dissemination is uni-directional, *from* the MCO *to* the Medicaid agency. Information must flow in the opposite direction as well if the State wants to see improvement in data capture and quality. A Website dedicated to one State's encounter data workgroup can be viewed at http://www.umbc.edu/chpdm/encounter.htm.

- **Quality Monitoring**. This work group could also include the EQRO contractor. Its members would be MCO Medical Directors or other senior clinical staff, and it could identify key quality monitoring issues that can be addressed through the use of encounter data. This group may want to coordinate its efforts with the Encounter Data Capture and Analysis group, which may have as an agenda item how to conduct quality-related analyses using encounter data.

- **Eligibility**. This group could be responsible for identifying and resolving a wide range of issues around the combination of eligibility and encounter data, including: (1) what eligibility-related data elements should be tagged onto the encounter data for analytic purposes and how to define those data elements, (2) determining how frequent changes in recipient MCO enrollment affect the completeness and timeliness of encounter data, and (3) developing policy on how to handle difficult cases such as dual eligibles.

5. State Experiences With Work Groups

One State designed an encounter data-based MCO "report card" that compares MCO-generated statistics to State-generated statistics for key Medicaid indicators. The State uses the report card to identify indicators for which there is a $\pm$ five percent difference between the State- and the MCO-generated statistics. These indicators are flagged as being outside the State's error tolerance. This analysis is then used to initiate a face-to-face dialogue between the State and the MCOs regarding data quality. The State feels that the first 15 minutes of these meetings are critical to their success. One official said, "when we use words like 'negotiate,' 'dialogue,' and 'we may have made a mistake,' the MCOs relax" and the meeting becomes more constructive. This technique has assisted in considerably improving MCO data quality.

Another State instituted a managed care workgroup during the managed care organization RFP process; they began as a series of bidders' meetings. During these meetings, the State addressed technical questions related to the interfaces between the managed care organizations' and the

State's information systems. After the procurement process ended, these interactions evolved into regular monthly meetings designed to address all technical issues, including those related to encounter data.

A third State held regular meetings of senior personnel of the MCOs with the Medicaid director, but communication tended to be one-way from the State to the MCOs according to a pre-set agenda, MCOs were not encouraged to bring issues to the meetings, and technical subcommittees were not assigned to follow up on technical issues. Several MCO representatives felt that the meetings were "command performances" with the Medicaid director and not particularly helpful. After long delays in bringing up encounter data systems, a more technical encounter data-related work group was established including both technical and policy personnel.

6. Provide Technical Assistance

State Medicaid agencies should sponsor technical assistance workshops for MCOs and direct caregivers regarding all data collection and reporting requirements. Such workshops should be tailored to the specific data standards of greatest importance to the state and should address common obstacles to data collection and reporting problems. Some States have made encounter data technical assistance consultants available to MCOs, at State expense. These States felt that an early investment in technical assistance would be well repaid by helping the encounter data system to go into operation sooner, with fewer problems requiring the use of expensive resources later.

IV. PLANNING TO SUCCEED: DESIGNING AN ENCOUNTER DATA COLLECTION STRATEGY

This section outlines major system elements that should be considered during the project design phase. It begins with an examination of problems already encountered by states.

A. COMMON BARRIERS TO ENCOUNTER DATA COLLECTION AND UTILIZATION

Each state should strive to integrate encounter data into the total information suite needed to design, manage, and evaluate the entire Medicaid program. Encounter data collection and integration, however, can be difficult for a number of reasons. A recent survey, performed for HCFA, documented many common issues faced by states in the process of establishing encounter data utilization systems.[2]

At the provider or MCO level:

- With the transfer of risk through capitation, there is less financial incentive for capitated providers to document service use.
- Some managed care organizations have not developed the technological infrastructure necessary to generate reliable encounter data. MCOs agree to provide information in either contracts or RFPs but have little idea of the level of detail which will be required by the state, nor of the capabilities of their own systems. New MCOs, especially, are overwhelmed by functions such as enrolling beneficiaries and providers. Consequently, they do not even turn their attention to the issue of service documentation until long after it has become a problem.

At the state level:

- Medicaid agencies trying to move quickly into managed care often overlook the complexity of issues surrounding the incorporation of encounter data into the rest of their administrative information (e.g., fee-for-service claims, eligibility, provider files).
- States underestimate the modifications they need to make to their MMIS processing to make it possible to process encounter records. Some of these problems could be corrected if more thought was given up front to what is requested from the MCOs and if more testing was done of the MMIS prior to processing encounter data.
- States have unreasonable expectations about how quickly things can be accomplished and at the same time give little support to the MCOs to meet these deadlines.
- While States expect to receive encounter data, they often drop the ball in making sure the process is running smoothly or fail to follow-up on explicit concerns that the MCOs describe.
- There is poor communication both within the States and within the MCOs. High turnover at the MCOs and lack of dedicated staff for encounter data submission adds to the problem. In addition, Medicaid enrollees sometimes represent a very small portion of MCO membership

[2] State Assessment Task, Interim Final Report. Prepared for Health Care Financing Administration under Contract No. 500-92-0035. The MEDSTAT Group, March 11, 1998.

and are not given very high attention. States do not communicate well internally either. There often is an assumption that these problems are restricted to the IS group and do not need the attention of other departments within the Medicaid agency.

- Staff are unavailable or untrained in analysis. States lack staff who know how to use encounter data for program management and monitoring.
- States lack plans for using encounter data. States have poorly conceived plans for how they will use the information internally to monitor and manage the managed care program. Similarly, they have little or no plans for how and if the information will be shared with the MCOs. An inability to clearly articulate the uses of the information weakens the arguments that states make to MCOs for submitting the information in a timely and accurate manner.
- States are not sharing information with each other. There clearly are some emerging best practice strategies in the following areas which are not being communicated: (1) MMIS system edits; (2) timeliness of data submission and handling of file problems; (3) sanctions and incentives; (4) contract specifications; (5) receiving encounters from MCO subcontractors.
- Encounter data timeliness is a problem. There does not seem to be a great sense of urgency about having encounter information. Some States believe they will use the information perhaps once a year. There is little sense that encounter data could be very useful for day-to-day program operation.
- Encounter data validation is limited. Some States have done a haphazard job of validating encounters against medical records, and are not using approaches that would meet the standard for generalizability. They are intimidated by the MCOs and the burden that the MCOs tell them this task creates. Given the considerable expense of medical record-based validation studies, it is important that rigorous statistical sampling methodologies be followed, in order to ensure the generalizability of findings.

B. LESSONS LEARNED TO DATE

The keys to success in establishing a successful encounter data utilization system are summarized briefly here, and discussed in more detail below.

1. Define Leadership Responsibility for the Project.

As discussed previously, a clear, accountable, and empowered leadership structure is a *sine qua non* for successful encounter data system implementation.

2. Make an Outcomes-Focused Plan—A Plan with an Explicit Vision for the Uses of Encounter Data in Program Management and Quality Improvement.

Quality improvement initiatives are, conceptually and by design, iterative (Deming, 1986). While it is not possible to foresee every possible use of encounter data when planning an encounter data system, developing a strong vision of the key uses of the encounter data system will provide a critical reference point for system development efforts. Many issues (such as the selection of required data elements) are more easily resolved when they can be connected to the analytic needs of managers and policy makers.

3. Involve All Major Stakeholders in the Planning Process.

- A common problem reported by states wrestling with encounter data systems is that a key stakeholder was not involved in the planning process in a timely fashion, leading to project revisions and delays.
- In one state, late involvement of information technology (IT) leadership meant that not enough time was planned to make needed modifications to the MMIS system in order to process encounters.
- Many MCOs' current health information systems do not identify the rendering provider in data submitted by group practices, but some states have required this information without affording the MCOs consultation or sufficient time to make needed system changes.
- Some states did not initially consult with their EQROs in order to integrate their encounter data-based and EQRO-based quality improvement plans, resulting in unnecessary burdens on MCOs.

4. Plan Meaningful Feedback to MCOs.

Encounter data-based analyses usually identify patterns and variances, with results compared to means, benchmarks, or guidelines. Interventions to address MCO-based issues must be performed by the MCOs themselves, so it is vital that they have access to the information upon which the state's judgements are based. There are a variety of ways in which information can be passed to the MCO: through routine reports, meetings, or through MCO access to the encounter data-based decision support system.

5. Define Key Plan Milestones as They Affect Each Stakeholder.

A written plan that illustrates the key milestones to be achieved in the implementation of the encounter data system will serve as a basic reference point. It should include a critical path diagram, which literally helps stakeholders to stay on the same page, understand system progress and outstanding issues throughout the process.

6. Adopt A Realistic Timetable.

Steps that typically take more time than was originally planned include:

- The initial planning task, especially the participation of non-state stakeholders.
- Modifying the MMIS system to accept encounter data, including making appropriate edits.
- Internal state efforts to define the number and definition of encounter data elements to be requested of MCOs, usually due to issues of coordination between information technology professionals, health care analysts, and policy personnel.
- The process of negotiating acceptable compromises between the number and definition of data elements the state would like to capture and the MCOs can readily supply.
- Ironing out kinks in the process of data transfer from the MCOs to the states, and in the transfer of data and edit reports from the state to the MCOs.
- Internal resolution (at the State) of issues with both technical and policy components.
- MCO readiness to submit encounter data in required formats.

7. Continue to Communicate with Stakeholders during the Implementation Process.

Implementing an encounter data system requires identifying and solving a large number of issues, many of which have both policy and technical aspects. When policy and information systems issues are intertwined, there are often communications issues within organizations as well as between them. An aggressive, structured communications process can be an important element in reducing the time required to successfully implement the encounter data system.

C. AN ENCOUNTER DATA SYSTEM PLANNING CHECKLIST

While the checklist presented here is not exhaustive, it provides an illustration of the main elements needed to implement an encounter data analysis system. Each of the items is discussed throughout this guide.

EXHIBIT IV-1
An Encounter Data System Planning Checklist

	PLANNING PHASE	√
1	Identify project leadership	
2	Identify stakeholders	
3	Organize and implement stakeholder participation (work groups)	
4	Prepare preliminary project milestones and timeline	
5	Determine (preliminary) managed care program monitoring measures and	
6	Define an encounter	
7	Determine data elements	
8	Define data elements	
9	Define data linkages	
10	Determine system configuration	
11	Plan MMIS or data warehouse system modifications	
12	Define data collection standards	
13	Define data transmission standards	
14	Determine data validation techniques and standards	
15	Define data and report feedback (to MCO) strategies	
16	Plan integration of encounter data into federal MSIS reporting	
17	Define public data/report release strategies	
18	Define interim program monitoring strategies	
	IMPLEMENTATION PHASE	
1	Codify encounter data standards for use in RFPs, contracts, regulations	
2	Continue stakeholder work groups	
3	Revisit and revise milestones and timetable on a regular basis	
4	Implement MMIS or data warehouse system modifications	
5	Conduct encounter data transmission readiness assessments of MCOs	
6	Test MCO to Medicaid data transmission	
7	Test Medicaid to MCO data and edit report transmission	
8	Test any required encounter data to MSIS transformations	
9	Process MCO test data through data warehouse edits	
10	Certify MCO encounter data process as operational	
11	Test data linkages and associated data processing routines	
12	Test encounter data management report production from data warehouse	
	OPERATIONAL PHASE	
1	Implement interim program monitoring strategies	
2	Continue data quality submission feedback reports	
3	Implement data quality assessment reports	
4	Implement data validation methods	
5	Continue work groups as a QAPI process	
6	Continue MMIS or data warehouse system modifications as needed	
7	Implement data/report feedback to MCOs	
8	Implement management reporting	
9	Implement public reporting	
10	Design and implement MCO encounter data performance improvement plans as necessary	

V. DEFINING DATA REQUIREMENTS

A. DEFINING AN ENCOUNTER

A critical yet commonly overlooked component to designing an encounter data system is developing a common definition for an encounter. As described earlier, an encounter, which may also be referred to as a "shadow" or "dummy" claim, is a record of a service that was provided to a patient. The way in which an organization defines encounters has considerable impact on the content and value of the managed care information that is collected. Consider the following options for defining an encounter:

Definition 1: An encounter is *an interaction between an individual and the health care system.* This "interaction" could be an office visit, an inpatient admission, a prescription filled at the local pharmacy, and so on. This is a high-level definition. For example, assume Jane Smith has a routine visit with her doctor. That visit is comprised of a lab test, a comprehensive evaluation, and an X-ray. Using Definition 1, we would know that Jane Smith had one encounter -- an office visit. We would not know the number and types of services that were performed during her visit. Many community health centers and FQHCs currently use this definition of an encounter.

This definition is commonly used in the staff and group-model HMO setting. It is effective for tracking patient access to the health care system. It is not effective, however, if one needs access to detailed, procedure-specific information on patient care. Under this definition, the analyst would have to turn to alternative sources, such as the patient medical record, to gather that information.

Definition 2: An encounter is *a service provided to an individual through the health care system*. In other words, every service that is provided is considered an encounter. Using Definition 2, we would conclude that Jane Smith had three encounters -- a lab test, a comprehensive evaluation and an X-ray. Each of these encounters would be assigned a procedure code and a diagnosis. They would all share the same service date because they happened at the same time.

The value of Definition 2 is that it ensures the collection of detailed information on every service that is performed for every patient. This level of detail can be rolled up for high-level analyses, but it can also be used to conduct more in-depth analyses.

Definition 3: An encounter is *a professional contact between a patient and a provider who delivers services or is professionally responsible for services delivered to a patient*. This definition, which is most similar to Definition 1, is from the Report of the National Center for Vital and Health Statistics Subcommittee on Ambulatory Care Statistics and the DHHS Interagency Task Force on the Uniform Ambulatory Care Data Set (UACDS), June 1989. The NCVHS definition continues to state:

> "A professional contact occurs between a patient and a provider when the patient is physically present or when the provider is analyzing a specimen or interpreting an image of the patient for the referring physician.... A professional contact also can occur between a patient and provider on the telephone and by other communication mechanisms from remote sites, but data system policies may differ on whether such a contact constitutes an encounter and what data elements should be recorded or collected for these contacts.... On the other hand, provider consultation with another provider about a patient in the absence of the patient or referral of the patient to another party is not considered an encounter. Provider consultation with a third party for the purpose of developing and obtaining services for a patient, e.g., a case manager seeking housing arrangements for a patient or a provider complying with preadmission certification requirements for a patient, can represent appropriate services but should not be considered an encounter. For purposes of this data set (i.e., UACDS), receiving services from a pharmacist or a supplier also does not constitute an encounter."

> Definition 4: An encounter is *any service for which a claim would have been paid under the former fee-for-service system.* While this definition lacks a theoretical basis, it has underpinned the thinking of several states, and provides a certain level of consistency in practice. This is also the working definition of encounter data used by the MSIS in its requirement to States for data submission; the MSIS data dictionary states that "encounter claims simulate claims that would have been generated for HMO/HIO, PHP and PCCM patients if they were billed on a fee-for-service basis."

In practice, encounters are often classified into types, and a variety of standard forms are used to capture encounter information. The distinctions typically follow the setting of care, and the type of service provided. Common encounter types include:

- **Medical encounters**. Covers the range of ambulatory provider services, with the exception of services identified below (e.g., EPSDT). Billed on a HCFA 1500 claim form. Some MCOs create specific encounter forms for different types of service (e.g., physical therapy) or different specialties (e.g., oncology).
- **Inpatient hospital encounters**. Billed on a UB92 claim form and include the universe of inpatient services.
- **Outpatient hospital encounters**. Billed on a UB92 claim form, and include services provided in an outpatient hospital setting.
- **Prescription drugs**. The National Council for Prescription Drugs Programs (NCPDP) is the most common billing format for prescription drugs.
- **Dental encounters**. Services provided by dentists or dental technicians may be billed on a standard American Dental Association form.
- **EPSDT encounters**. Given the specialized nature of EPSDT services and the States' need to collect complete EPSDT information, many States and MCOs opt to collect EPSDT information as separate from "medical" encounters. Many States use a specialized encounter form to identify and track EPSDT services.

In summary, there is no absolute industry-standard definition for an encounter. Each state should choose a definition that best suits the purposes for which it plans to use the data, and then communicate that definition clearly to its MCOs. For example, if a state wants to use encounter data to track service-specific utilization patterns across managed care organizations, it should not adopt Definition 1 because it does not require the collection of service-level detail information. On the other hand, if a state plans to rely heavily on medical record abstraction for the collection of information, it may not want to adopt Definitions 2, 3, or 4.

B. DETERMINING THE DATA ELEMENTS FOR COLLECTION

1. Medicare-Medicaid Common Data Initiative (CDI)

The Medicare-Medicaid Common Data Initiative Steering Committee was created to serve as HCFA's focal point for coordinating managed care data issues. In 1995, this group created a *Core Data Set for States and Managed Care Organizations* in an attempt to standardize managed care data requirements for Medicare and Medicaid. While the CDI was never a HCFA standard, and has been superseded by more recent initiatives, it remains a valuable resource as a guide to creating a core set of data elements that are analytically useful. While the newer proposed transaction standards contained in HIPAA Administrative Simplification regulations (X12 N 837) are quite complete, it does not necessarily follow that States should capture every data element from that data set into their analytically-oriented data warehouses.

The CDI encounter data set was designed to link to other files such as eligibility and provider files. It differentiates between the following types of encounters:

- Physician and other providers
- Hospital
- Long term care
- Prescription drugs
- Dental services

The CDI uses the current Medicare standard billing forms -- the HCFA1500 and UB92 -- for data element definitions and valid values. Appendix D contains the full data dictionary.

2. Additions to the Medicare-Medicaid Common Data Initiative Minimum Data Set

There are some data elements (or types of data elements) that are not included in Medicare-Medicaid CDI, but could be valuable for program management and analysis. For example:

- **Plan Based Information.** Adding information to the data set which gives information about Type of Plan (in addition to the Plan ID already carried) will allow distinctions to be made between the types of plans offered to beneficiaries. Also, reporting the PCCM (primary care case manager) allows data to be examined at the PCCM level.

- **State-Defined Data Elements.** States may want to add fields to define, at their own discretion, data elements of interest. Many States maintain their own coding systems for certain data elements (e.g., provider type, eligibility category), and may wish to retain those codes in the data system. States may also need additional data elements for program administration purposes. For example, New York includes state-specific rate codes for the reimbursement of rate-based providers.
- **Third Party Information.** States may want to identify encounters on which other payers were involved as a means for assessing the completeness of the data. This may help to identify situations in which care was provided but information is missing. Examples of third parties that can be identified are: Medicare, patient out-of-pocket, and private insurance. This information may also be used to adjust MCO capitation rates, particularly if other payers have assumed liability for a substantial portion of the cost of services provided to Medicaid beneficiaries. Information about these sources of payment may be carried as flags or as actual payment amounts.
- **Research-Oriented Data Elements.** Some data elements may not be required for Federal reporting but may be critical for performance assessment and program evaluation. These include: secondary and tertiary diagnoses or procedures, specific diagnosis/procedure coding systems used, and facility type.
- **Demographic Information.** By including patient demographic information on claims and encounter data, the need to obtain that information though a link to enrollment files can be avoided in many situations. Data elements such as sex, age, race, eligibility category, and Social Security Number (SSN) can be very useful in analyzing utilization patterns and evaluating data quality without the need to link to enrollment files. In addition, by carrying SSN, encounter records can more easily be linked with external data sources such as vital statistics (important for birth outcome studies). The convenience of avoiding the linking with enrollment files must be balanced, however, with the probability that MCOs will be less than perfectly accurate and consistent in providing demographic information, creating analytic problems in linking encounters at the patient level.
- **EPSDT Data.** With the current intensive focus on preventive care for children, the tracking of EPSDT services is an important area of data enhancement. Immunizations and laboratory tests can be tracked with proper use of service codes. Other types of screens can be tracked in similar ways. EPSDT referral indicators would also be useful to add. A series of problem/condition flags that identify what areas were checked and problems identified would enhance the data even further.
- **Financial Information.** Financial fields such as charge and payment are not relevant for encounters that are paid on a capitated basis. However, it would be useful to have a capitation flag present on the encounter record that would allow an analyst to identify whether the service provided was included in the capitation rate paid to the provider, or whether it was paid on a fee-for-service basis. The encounter record should also include a payment field. This field would be blank if the capitation flag were set to “yes” and it would contain a payment amount if the capitation flag were set to “no.”

The combination of payment information and capitation flags offers several additional analytical capabilities. First, comparing the capitation flag and the payment flag is part of the data quality review; incorrectly flagged encounters (i.e., the capitation flag is set to yes, but an amount is recorded in the payment field) are candidates for further review, and may represent problems in either data quality or claims processing.

Second, payment proxies could be added to the encounter records in some way to ensure that they can be used to make comparisons to fee-for-service programs. If States are interested in collecting this information, they can choose among a variety of methods for adding financial information to these records. One possibility is to require MCOs to include their current charge for the service provided. (Later, the Medicaid agency could add the fee-for-service equivalent for comparative purposes). In addition, States can use other data elements on the encounters (e.g., diagnosis code, procedure code) to apply known reimbursement methodologies (e.g., Ambulatory Patient Groups, Medicare's Relative Value Units) to aid in the calculation of capitation rates.

Adding fee-for-service equivalents means processing the encounters through the MMIS as if they were going to be paid on a fee-for-service basis. Setting up the "dummy" processing of encounter claims for the purpose of adding FFS equivalents is complicated, and is an area in which many States have experienced problems with their MMIS operations. In general the problem emanates from the fact that, in order for the MMIS to "process" a claim, it may need more information than is routinely required for an encounter.

C. GUIDELINES FOR DEFINING DATA ELEMENTS

Determining what data elements to collect is only half the battle--the next step is to develop standard definitions and values for each of those data elements. Neglecting this task can have significant repercussions.

Imagine a State with 15 managed care contractors, each of which uses a different set of values to define Provider Specialty. What are the implications? First, the level of effort necessary to map 15 sets of disparate values into one standard set is considerable. Second, undertaking this mapping process would delay the availability of the data. Third, the final result would reflect the lowest common denominator set of values among the various MCOs, which could reduce the analytic value of the data.

For example, assume one MCO only uses two values for Provider Specialty--Primary Care Physician (PCP) and Specialist. Furthermore, assume that the other 14 MCOs use very detailed values that cover all specialties and some sub-specialties. In order to achieve consistency, all MCOs' values would have to be coded into "PCP" and "Specialist," thereby losing an enormous amount of detail.

Perhaps the single most important guideline for defining encounter data elements is to **rely on existing data standards wherever possible**. This holds true for both defining the *set of data*

elements that will be produced by a MCO (e.g., Medicare-Medicaid CDI), and defining *values for each data element* therein.

For example, a State may wish to require that MCOs submit a data element called "Quantity." The State must provide the MCOs with (1) a definition for Quantity and (2) a set of acceptable values. In the case of Quantity (sometimes called Units), the UB-92, the HCFA 1500 and the NCPDP each contain similar definitions, and set parameters for acceptable values. These standard forms are included in Appendix E.

D. COMMON, PROBLEMATIC DATA ELEMENTS

Some data elements require more complex definitions. The State should provide MCOs with a data dictionary that explains the conceptual framework for such data elements, to ensure that MCO-generated reports and statistics are accurate and comparable. For example, a State may request that MCOs submit information on "primary care physicians." Each MCO may have a different definition for primary care physicians -- some may include OB/Gyns and pediatricians, while others may limit PCP status to general practitioners and family practice physicians.

States should discuss data element issues with MCOs early on in the process of implementing a managed care program. The MCOs can provide valuable insights into the level of detail needed to successfully meet requests for information.

Using the experience of 1115 waiver States, the following section lists data elements (or concepts) that need to be carefully defined in encounter data systems:

1. Provider ID

Provider ID is one of the most difficult data elements for many states. As discussed previously, the National Provider ID Initiative will also impact standards for provider IDs. For analytic purposes, the ideal situation is when the provider who performs the service ("rendering provider") is identified on each encounter. Maintaining a complete provider file at the rendering provider level of detail is critical to Medicaid program management. It enables States to monitor the availability of specialty care within networks, and to profile providers within and across MCOs.

Unfortunately, some MCO data systems can furnish this information only after considerable modification. Most commonly, MCOs maintain many provider IDs that represent multiple individuals, e.g. provider groups or clinics. This practice is also common in many Medicaid fee-for-service programs. Similarly, even individual Medicaid provider IDs often exist in a many-ID-to-one-provider relationship, e.g. a provider works in more than one location, and each location generates a separate provider ID.

A related issue is that MCO networks may include providers who are not otherwise Medicaid-certified, and who do not wish to be Medicaid-certified. A number of States have chosen to relax the requirement that all providers must be Medicaid-approved and are delegating the

responsibility of tracking individual providers to the MCOs. This can be very problematic because the State's provider file will no longer contain a record for every clinician providing services to the Medicaid population, unless the state creates a pseudo-identification number for non-Medicaid providers.

More recently, a third unit of analysis, the provider group, has been used in analyses of managed care; e.g. the Pacific Business Group on Health is producing profiles based on the provider group, cutting across MCOs (their guide to selecting a managed care provider can be viewed at http://www.healthscope.org). The reasoning behind these analyses is that most providers are in many managed care networks, and the provider group setting, and its associated practice style, may be a more important factor in the delivery of care than the MCO.

While technical database design issues are generally outside of the scope of this guide, we note here that the provider ID issue presents a classic hierarchical definition problem of data warehousing, and several technical approaches are available to address it within that context (Hammergren, 1996).

2. Recipient ID

Maintaining a consistent Recipient ID usually presents a series of difficulties to MCOs. The most common solution is to enforce the use of the Medicaid ID as the recipient ID, but this solution can take a good deal of time and effort if providers have not been routinely using the Medicaid ID and lack real-time access to this information as part of the eligibility verification process.

In many States, it is not uncommon for one person to have multiple Medicaid IDs over time, due to changes in address or other factors. In such cases, crosswalk files need to be maintained. Every State must also have a process to deal with the identification of newborns. Using the mother's ID as a temporary solution raises many complex issues. Some States issue temporary Medicaid IDs, which are later replaced with permanent IDs. The ID process can be administered by MCOs or by hospitals. Again, this practice would require the maintenance of a crosswalk file. At least one State enrolls babies prior to birth, thus creating a recipient ID in the MMIS before the delivery.

3. Type of Service

There is no industry standard definition of type of service, so it is essential for States to define this carefully and communicate its definitions to MCOs. States also face challenges in reporting type of service to the Federal government, since the 2082 type of service categories sometimes blur the distinction between program type, provider type and service type definitions within the same value. As is so often the case in data-based analyses, it will be easier to aggregate data for analytic purposes than to disaggregate them.

Common service types include inpatient, physician, X-ray, lab, pharmacy, and long term care; usually, there is also a "catch-all" category as well, with a label like special services. Examples of issues to be addressed include:

- Inpatient: does the term include rehabilitation hospitals? State mental health hospitals?
- Are hospital-based outpatient clinics included in "physician" or in a separate category? FQHCs and community health centers? Health departments?
- Does the "physician" or "professional" service type include non-physician providers such as chiropractors, speech therapists, social workers, nurse practitioners, etc.?
- Does the long-term care category include other professional services delivered in the long-term care setting? What is the boundary between rehab services and long-term care services? Is intermediate care included in this category? Home health care?
- How are non-encounter professional services classified (e.g. fees received for interpreting X-rays or tests)?

4. Primary Care Services

As described by the Institute of Medicine (IOM, 1978), primary care services have certain characteristics which differentiate them from specialty or other kinds of care which are episodic or require a referral for the individual to access. There are many types of primary care services, but they differ from specialty care because they relate to an ongoing responsibility/accountability or link to a primary care provider. This responsibility may include case management and care coordination services, as well as a range of diagnostic and treatment services. The set of diagnostic and treatment services may be identified by the state and are defined by codes specified by the Medicaid agency and communicated to the MCOs. Primary care services typically include well-baby, well-child, and well-adult care, preventive services including immunizations and flu shots, and screening services. The codes used to define primary care services must include both standard ICD-9, HCPCS, and CPT codes as well as any Medicaid-specific and MCO codes that are used ("non-standard" codes). All non-standard codes must be either mapped to a standard or their values must be available in the State's information system.

5. Primary Care Provider (PCP)

The PCP is the provider who has first contact and referral approval for a recipient. In most cases a recipient is assigned to a PCP by either the Medicaid agency (or its designated enrollment broker) or the MCO. Each State must define "primary care provider" for its own purposes and communicate that definition to MCOs. While this definition may differ from State to State, it is the State's definition that should be used for this measure. In some cases, the State's definition for this field may differ from that used by the MCO for its non-Medicaid members. Also, in some cases specialists can be PCPs for some types of beneficiaries (e.g. the disabled) but remain specialists for other types, creating further difficulties.

6. Specialty

Usually, every professional provider is assigned a specialty by the Medicaid agency. The term specialist is usually defined in contrast to internists and family medicine practitioners, and in contrast to the term PCP (although sometimes specialists can be PCPs). In general, recipients must be referred to specialists by their primary care provider. The definition of specialist varies by State and/or by MCO. For example, some States consider Ob/Gyns to be specialists, while other States consider them to be primary care physicians.

The identification of specialists often comes from a provider master file maintained by either the state or the MCO. For instance, the Medicaid agency may use the state licensure file as a source of information about the specialty of a provider. In addition, many physicians have multiple specialties, introducing a further complication. Treatment by specialists is an important consideration when comparing patient outcomes achieved by MCOs.

7. Prenatal Care Services

These services are provided to pregnant or near-pregnant women prior to delivering a baby, and include all services directly related to ensuring the delivery of a healthy, full-term baby. Care delivered during the prenatal period for conditions of the mother deemed to carry potential hazard to the pregnancy are considered prenatal services during this period. Examples of such conditions include diabetes, hypertension, and substance abuse.

States can adopt a variety of approaches when identifying prenatal services. Asking a provider to indicate that the services provided are for prenatal care usually is not an effective strategy because this indicator does not make its way onto the encounter data collection instrument. In addition, the CPT-4 coding system includes legal (and widely used) codes that bundle multiple prenatal visits into one code, and many providers are paid a single fee for this bundle of visits.

Some States have tried introducing state-specific codes to indicate whether a service represents prenatal care and even identify the trimester of care. While this level of detail is valuable, it is often difficult to get providers to use new codes without a financial incentive. Medicaid agencies may have to identify prenatal care through a combination of approaches including diagnosis code, procedure code, provider specialty, and date of delivery.

8. Preventive Care Services

These services are a subset of primary care services, and may include diagnostic tests and treatments, specified by the state and identifiable by procedure and diagnostic codes. Preventive services include screening exams such as mammograms, pap smears, lead screening, and cholesterol tests. They also include both childhood and adult immunizations. The State must develop a list of preventive care services that it intends to track and communicate that list and the method for service identification to the MCOs. The proposed QISMC standards also address the issue of preventive care services, and developments in that area should be carefully monitored.

Many routinely provided preventive services cannot be identified through encounter data. For instance, almost every time patients are seen in a health professional’s office, they are weighed and their temperature and blood pressure are checked. These are preventive actions that are never recorded on encounters. By identifying the specific services that it intends to track, a State can limit the over-reporting of “routine” preventive services.

9. EPSDT Services

EPSDT services are provided exclusively to beneficiaries under age 21. They include a comprehensive health and developmental history; a comprehensive unclothed physical examination; appropriate immunizations according to age and health history; lab tests, including blood lead level assessments appropriate for age and risk factors; health education, including anticipatory guidance; vision screening; hearing screening; and dental screening. Most States use state-specific codes to identify EPSDT services. One common problem in tracking EPSDT services is that some of the services are typically not part of the MCO service package except when they are delivered as EPSDT services, so they may fail MCO MIS edits.

10. State-Specific Forms and Codes

Some States have unique forms that must be completed. Other States have developed special codes for some services, e.g. services that are not part of the general Medicaid benefit package but are provided for beneficiaries in a waiver program. These should be avoided if possible, in order to minimize the administrative burden on MCOs.

11. Place of Service

Place of service is the location where the service was provided. Common classifications include "hospital inpatient," "hospital outpatient," "office," "clinic," "FQHC" and "nursing home." Whatever the categories chosen, they should be analytically useful to the State. A common reason for using place of service codes is to track hospital outpatient services. Hospital outpatient clinics are important providers of services for many Medicaid agencies. Hospital outpatient services are often reported on a UB92 form, and, without a place of service code, it can be very difficult to differentiate these services from inpatient services.

E. SET ERROR TOLERANCE STANDARDS

A general expectation of data quality should be included in the MCO/provider RFP. Measure-specific error tolerance levels can be included at this early time if the State plans to penalize or reward MCOs based on their data quality rates. See Appendix F for some suggested data element-specific tolerance levels. The State may want to speak with MCOs and with the Fiscal Agent (FA) prior to setting tolerance levels to determine what the baseline performance is at the outset. For example, it may make sense to set the tolerance levels high for the first year (e.g., accept encounter data even if 25% of the records are missing a diagnosis code) if the MCOs have no prior experience submitting encounter data to other groups, and then lower the tolerance levels (e.g., accept encounter data only if 0-5% of the records are missing a diagnosis code) in subsequent reporting periods.

F. LINKAGE OF ELIGIBILITY TO ENCOUNTER DATA

As discussed earlier, eligibility data are not encounters, but are a critical source of information that must be accessed to manage the Medicaid program. States should verify that the encounter data can be linked to the eligibility data for both program management and analytic purposes. Accurate and timely eligibility information is also extremely valuable to MCOs paid through capitation, because their revenues are tied to the number of eligibles, not the number of services performed.

Information infrastructures need to perform the following types of eligibility-related activities related to encounter data analysis:

- MMIS or eligibility system must track managed care enrollment data -- possibly from an enrollment broker. This should be updated daily.
- MMIS must track recipient disenrollment in one MCO/geographic location and re-enrollment in another.
- The system must be able to track a single beneficiary across MCOs and PCPs for analytical purposes. In other words, the eligibility file requires the use of a single Medicaid identification number for each beneficiary, or is able to cross-reference multiple numbers that are assigned to the same individual. This is especially important for rate-based analyses that rely on estimates of continuously enrolled beneficiaries, such as the Medicaid HEDIS quality measures.

VI. OPTIONS FOR STATE DATA SYSTEM CONFIGURATION

As a State defines an encounter and determines what data elements it wants to collect from managed care organizations and providers, it must also decide how the data should flow from its source -- the providers of care -- to the final repository in which it will be stored. States have chosen a number of approaches to including encounter data in the MMIS. These approaches range from processing managed care encounters exactly as if they were FFS claims to maintaining separate data bases of encounters from any other Medicaid information. In the following examples we will describe five different approaches which states have chosen to solve this problem. No single approach is recommended, and these examples are given as evidence of the variety of solutions used to address this issue. In all examples except for the first, encounters are first received by the MCO, processed and then sent to the state. Most of these solutions vary by the place where the encounters are edited and the ability to merge the encounters with FFS claims.

A. PROVIDERS SEND ENCOUNTERS TO THE STATE EXACTLY AS IF THEY WERE FEE-FOR-SERVICE CLAIMS

In this method providers send encounters to the State exactly as if they were fee-for-service claims, including financial information, and the State processes them through the MMIS. The State has added values in the MMIS that retain MCO ID and other critical information so that it knows not to pay the provider for the service. On a regular basis (at least weekly), the State creates an electronic file of these encounters and sends them to the MCOs, who process them in their own MIS. This method ensures that the State has as complete an encounter data set as is possible, since these encounters serve as the basis for both the calculation of the capitation rate paid by the state as well as direct payment to the providers from the MCO. This system, currently in operation in one state, works well, but not all MCOs may be willing to have payment information from the providers directly shared with the state.

B. PROVIDERS SEND ENCOUNTERS TO THE MCO AND THE MCO SUBMITS "SHADOW CLAIMS" TO THE STATE

This approach was the method initially chosen by the majority of states for processing encounters. The premise was that MCOs would have information that looked just like fee-for-service claims and that this information would be shared with the State, which would process the encounters exactly as if they were fee-for-service claims. The following are examples of problems that arose with this approach:

- MCOs do not retain in their own MIS all the information from an encounter, making it very difficult to send that information to the state for "fee-for-service processing." States discovered that they had a great deal of trouble processing the encounters because information was missing or not in the same format expected by the State's MMIS

- MCOs do not receive encounters for all services that are provided. States discovered that MCOs that sub-capitated services, especially for lab, x-ray, and pharmacy, did not receive claim-level detail information
- States did not have the same requirements for MCO providers as they had for fee-for-service Medicaid providers, making it difficult to process MCO encounters. Most notably, many states did not require providers within MCOs to be Medicaid providers; thus these providers did not have Medicaid Provider IDs.

C. STATES RECEIVE ENCOUNTER DATA FROM MCOS AND EDIT AND VALIDATE THEM IN A SYSTEM THAT IS PARALLEL TO THE FEE-FOR-SERVICE MMIS MODULE

Some states have chosen to create a system that is parallel to its fee-for-service MMIS module, in an effort to avoid the problems of editing encounters as if they were claims. The states use the appropriate edits from the fee-for-service module such as eligibility, diagnosis code, procedure code, but do not try to walk through the entire process of "paying a claim." This method for editing encounter data appears to be meeting some success, but states that have tried to use it have found that they may be underestimating the level of editing and data quality review that they need to incorporate into the parallel system. At the conclusion of the process they still must be assured that the encounter data are complete and accurate and able to be analyzed. In addition, this process requires that there be in place a process to merge the encounters and the fee-for-service claims into a working data file that allows for the complete analysis of the Medicaid program.

D. STATES RECEIVE ENCOUNTER DATA FROM THE MCOS, EDIT THE DATA, OUTSIDE THE FEE-FOR-SERVICE MMIS MODULE, AND THEN SUBMIT IT TO A DATA WAREHOUSE

Some states have chosen a process where the encounters are submitted to an external vendor, not the fiscal agent, who edits the data for accuracy and completeness and then submits the data, through a gateway, into a data warehouse. During the gateway process the encounter data are checked for, among other things, recipient eligibility. Once the encounter data are added to the data warehouse, it is possible to access information about the entire Medicaid program. This approach avoids dealing with the fee-for-service module or even initially having to make space for the encounter data within the state system. It also means that encounter data that are not of acceptable quality are never added to the warehouse, avoiding two problems: 1) poor quality data, and 2) duplicate encounters. Duplicate encounters often occur when MCOs attempt to resubmit encounters that originally had poor data quality.

E. STATES RECEIVE ENCOUNTER DATA, EDIT IT OUTSIDE THE FEE-FOR-SERVICE MMIS MODULE, AND MAINTAIN IT IN A SEPARATE, NOT LINKED, DATABASE

Some states have chosen to maintain the encounter data that they receive from MCOs in a completely separate database. These data are subjected to edit processes similar to the fee-for-service module but designed specifically for encounter data. Once the data have been edited, which generally includes some review of recipient and provider eligibility, they are added to a separate "managed care" database. In some cases, states have chosen to add fee-for-service MMIS claims information from the PCCM program to the managed care database. This approach often means that the state has much faster access to encounter data because it does not need to modify the fee-for-service MMIS module. It also may be less costly, because the volume of information and complexity of the edit process is simpler outside of the fee-for-service MMIS module.

F. USING THE FEE-FOR-SERVICE MMIS MODULE - LESSONS LEARNED

There are many reasons why a State might opt to receive managed care encounter data via its fee-for-service Medicaid Management Information System (MMIS) module:

- The fee-for-service MMIS module provides a single capture point for all information on health service utilization, both traditional and managed care.
- The fee-for-service MMIS module contains numerous edits that can be run against encounters to ensure that they are held to the same data quality standards as are the fee-for-service claims. Furthermore, some of the large fee-for-service MMIS vendors have enhanced their products to support managed care encounter submission.

The fee-for-service MMIS "output" can be consistently formatted for both managed care and non-managed care services, which would make it easier for the State to perform comparative analyses.

- Perhaps most importantly, HCFA provides enhanced matching funds for MMIS development and enhancement, and increasingly is funding MMIS enhancements that reflect the move from traditional service delivery to managed care. These enhancements may include the development or purchase of a system to support analytic decision making, such as an "encounter data warehouse".

G. CREATING A SEPARATE ENCOUNTER DATABASE - LESSONS LEARNED

What are the advantages to bypassing the traditional fee-for-service MMIS module?

- One of the strongest arguments for this approach hinges on the belief that the types of information that should be collected in a fully- or partially-capitated managed care setting are

fundamentally different from the types of information that should be collected in a traditional fee-for-service program, and the fee-for-service MMIS module must be significantly modified in order to support accurate processing of managed care information.

- The State's contract with its Fiscal Agent may stipulate that the FA receive payment for every "transaction" that enters the fee-for-service MMIS module, regardless of whether it requires payment. Although encounters require less traditional editing than claims, they would still be subject to such a "per transaction" fee in this scenario, which could add considerably to the State's program costs.
- It is often difficult to distinguish between "real" claims (i.e., those that require payment) and encounters. Depending on the sophistication of the fee-for-service MMIS module, the State could find itself paying for services that are covered under the capitation rate -- or conversely, denying services that truly should be paid on a fee-for-service basis.

What are the disadvantages to bypassing the fee-for-service MMIS module?

- Stand-alone systems rarely include automated edits or data quality checks that could verify the accuracy and completeness of the information. If this information were to be passed on to a State Medicaid agency, the State would probably want to run it through the fee-for-service MMIS module prior to using it for analytic purposes.
- The State would have to ensure that the stand-alone system used all the same data element definitions, data manipulation methodologies, and so on, as the fee-for-service MMIS module if it wants the two data sources to be compatible for analytic purposes. Otherwise, the State will have to standardize the two data sources by mapping all data elements to a set of standard definitions. This is very time-consuming.

VII. REQUESTING AND RECEIVING ENCOUNTER DATA

Once the State has designed an encounter data strategy, the next challenge is to request encounter data from the MCOs and providers in such a way that the State will get the information it wants. This section provides recommendations on how to do this. These recommendations can be integrated into both the **RFP** that the State releases to interested managed care organizations, and the **contract** that is drawn up between MCOs and the State. The goal of these recommendations is to assist the State in ensuring that these documents clearly address key components of managed care information collection, validation, and analysis. If the RFP and the contract are successful, they will increase the quality, uniformity and timeliness of the information that is submitted to the State. Clear guidelines also make it possible for the contractors (MCOs) to pass along those requirements to their subcontractors in a clear and timely fashion.

This guide does not include advice on the specific wording of RFP or contract clauses, since each State has unique legal requirements. Comparative information is readily available elsewhere. The George Washington University Center for Health Policy Research has compiled an "inventory" of contract clauses that have been instituted between State Medicaid agencies and managed care organizations. This document, which currently exists in 1996 and 1997 editions, can be viewed at the Website of the Center for Health Care Strategies (www.chcs.org/analysis.htm), or printed copies can be obtained from the Center (202-296-6922).

A. MCO INFORMATION SYSTEMS CAPABILITIES

In the past, few Medicaid managed care RFPs requested detailed information on the functionality of each MCO's management information system. Nevertheless, the information system is inextricably tied to other key functions such as member enrollment, quality improvement and MCO financial management, and is therefore a key asset both to the MCO and to the State.

Appendix G of this guide contains detailed questions that States may want to pose to MCOs during the RFP process. These questions are designed to provide the State with early information on an MCO's data collection, management and reporting capabilities. Many MCOs will not be able to answer every question; that alone can help a State identify areas that require further investigation prior to contract award. A few of these questions are presented here as Exhibit VII-1.

Another tactic is to conduct site visits at the managed care organizations prior to making contract awards. The site visit can serve many purposes, including providing the opportunity to conduct an on-site walk-through of the information systems. Using a structured interview guide like the one included as Appendix H, the State can identify potential problem areas prior to contract award. This presents an opportunity to use the contract as a quality improvement vehicle. In other words, the State can include in the contract specific quality improvement-oriented action items that must be achieved in order to fully comply with the contract terms.

EXHIBIT VII-1
Examples of MCO Information System Questions
(see Appendix G for more examples)

1. Do you use standard claims or encounter forms? If so, please specify (e.g., HCFA 1500, UB92).

Hospital: _____
Physician: _____
Drug: _____
Other: _____

2. We would like to understand the means by which claims or encounters are submitted to your organization. We also are interested in an estimate of what percentage (if any) of services provided to your enrollees are <u>not</u> submitted as claims or encounters and therefore are not represented in your administrative data. Please provide the following percentages:

	Claims/Encounter Type				
Medium	**Hospital**	**Physician**		**Drug**	**Other**
		PCP	**Specialist**		
Claims/encounters submitted electronically					
Claims/encounters submitted on paper					
Services not submitted as claims or encounters					
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**

3. Please document whether the following data elements are required for each of the types of claims/encounters identified below. If required, enter an "R" in the appropriate box.

	Claims/Encounter Type				
Data Elements	**Hospital**	**Physician**		**Drug**	**Other**
		PCP	**Specialist**		
Patient Gender					
Patient DOB/Age					
Primary Diagnosis					
Primary Procedure					
First Date of Service					
Last Date of Service					
Revenue Code					
Provider Specialty					

B. ELECTRONIC DATA SUBMISSION STANDARDS

Electronic Data Interchange (EDI) is a computer-to-computer transfer of information that is designed to increase the timeliness and accuracy, and decrease the cost, of transmitted information. As discussed previously, the Health Insurance Portability and Accountability Act (HIPAA) of 1996 required the Secretary of Health and Human Services to adopt standards for: (1) electronic transactions and data elements for those transactions, (2) unique provider and patient health identifiers, and (3) security standards and safeguards for the information systems that transmit electronic transactions. The potential uses of EDI range far beyond current requirements, however.

EDI messages and data must follow standards for both how the information is structured, and how it is transmitted from one entity to another. Both the sender and the receiver of EDI information must use a "translator" in order to be able to communicate.

The attraction of EDI is multi-faceted. First, EDI can eliminate paper from the health information flow. Specifically, providers enter their encounters directly into an electronic medium, and those encounters are transferred to the managed care organization, and then to the State MMIS. This method reduces the rate of data errors because there is less need for human intervention. Second, the existing EDI standards for health care allow for the capture of far more information than is found on a standard claim form. Third, EDI can expedite patient care coordination. For example, a patient's primary care physician can send an electronic version of a skin biopsy to an oncologist in another city in minutes rather than days.

With the implementation of HIPAA, EDI will be a standard throughout the health care industry. The standard EDI formats adopted by HIPAA include claim and encounter transactions for professional, institutional, dental, and pharmacy services, as well as transactions related to enrollment and disenrollment, eligibility verification, and claim payment and advice. States will need to comply with the administrative simplification provisions of HIPAA and should start working now toward full implementation of EDI standards. States should include in MCO RFPs questions about each MCO's ability to support the EDI transactions mandated by HIPAA.

A less sophisticated form of electronic information transfer, called **electronic claims submission (ECS)**, is currently the standard method for submitting claims and encounters to insurance companies, third party administrators, and fiscal agents. While a surprising number of providers still submit paper forms to managed care MCOs, virtually all managed care organizations receive some proportion of claims and encounters in an electronic version of a paper form.

The advantages of electronic claims/encounter submission are many. First, electronic transactions are cheaper to process (some insurers have estimated savings of up to $2.00/inpatient claim with electronic claims submission). Second, electronic transactions eliminate the need for data entry or optical scanning, both of which are inherently faulty. Third, adjudication takes place closer to the time of service delivery, increasing the timeliness of the information. Fourth, electronic

claims submission reduces the rate of data errors because there is less need for human intervention.

Medicare has been a leader in electronic claims submission. Through HCFA's efforts, virtually all hospitals have the capability to transmit claims electronically. Even more impressive is the fact that over 60 percent of Part B (physician) Medicare claims are also paid electronically[5]. In the private sector, many prescription drug claims are submitted electronically to insurers through "point of service" pharmacy systems that allow pharmacists to review patient eligibility, conduct basic drug utilization review, and submit claims for payment.

Electronic claims submission dramatically shortens the "lag" between the time the service is rendered, and the time the claim/encounter is processed by the insurer or managed care organization. That "savings" could be passed on to the State in the form of more timely encounter data.

Some of the tables and questions included in Appendix H could be inserted into an RFP to assist States in determining MCOs' electronic claims submission capabilities.

C. DATA COLLECTION STANDARDS

The standards set forth in RFPs and contracts should reflect the consensus developed during the planning process, as discussed previously.

1. Define An Encounter

Both the RFP and the contract should **define an encounter** (see Section V for options). This ensures that all subsequent encounter requirements, especially those with penalties attached, are clearly understood by all contractors.

2. Itemize Data Elements

The State should **itemize the data elements it expects to collect on each encounter**. This information could be presented in a summary table. In the table, each column would define a different data source/type (e.g., hospital, professional, prescription drug) and each row defines a different data element. The cells are checked off for data elements that are required within each data source/type.

3. Define Data Formats

The RFP and the contract should specify the **formats in which encounter data must be submitted**. For example:

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[3] The electronic version of the HCFA 1500 billing form is called the National Standard Format (NSF).

- HCFA 1500 for all medical encounters - submitted electronically
- UB92 for both inpatient and outpatient hospital services - submitted electronically
- NCPDP for all prescription drugs - submitted electronically
- State-specific format for dental services, EPSDT services, other miscellaneous services - submitted on paper.

RFPs also should include copies of the required formats for each encounter type.

4. Require Reporting Of All Beneficiary Services

The RFP should state that the MCO is responsible for submitting encounters for all services provided to its members, regardless of whether the MCO has subcontracted its responsibilities to another vendor.

5. Data Completeness and Accuracy Standards

Appendix F contains data completeness and accuracy checks for different types of encounters. Standards such as those could be incorporated into an MCO RFP or an MCO contract along with financial or other incentives designed to ensure that MCOs and providers meet them.

Data completeness and accuracy standards should address the following topics:

- **Dates.** Fields such as Date of Service, Date of Processing and Date of Payment (where relevant) should be required fields and should be present on 100 percent of encounters. All date values should be valid. Furthermore, MCOs should demonstrate how they will handle date fields in the year 2000 and beyond; the filling of date fields after 1999 presents a number of data storage and computational problems for information systems.
- **Provider.** Servicing Provider IDs must be present and valid on 100 percent of encounters.
- **Eligibility Groups.** All eligibility categories should be represented in the encounter data in roughly the same proportion as their enrollment in the risk capitation program, with appropriate allowances for different utilization rates among groups such as TANF and the aged, blind, and disabled.
- **Diagnosis Codes**. Diagnoses should be well coded except perhaps by ancillary providers such as pharmacies, laboratories and transportation. The State may want to specify that at least 80 percent of encounters contain a non-missing and valid principal diagnosis unless the encounter is for an ancillary-type service, and that a high percentage of "filler" codes (e.g. 7999) is unacceptable.
- **Procedure Codes**. The procedure code is a critical element since it documents the service(s) that took place. We suggest that at least 99 percent of outpatient encounters contain a valid (i.e., non-zero, non-blank, and non-"8" or "9"-filled) procedure code. Keep in mind that facilities typically use ICD-9 procedure codes and ambulatory providers use HCPCS procedure codes. For inpatient encounters, all records should have a valid UB Revenue Code and, if appropriate, a surgical procedure code.

6. Data Submission and Resubmission Standards

The data submission and resubmission process has several steps, which can vary according to the information system configuration, as well as other factors. It is important that the process, the timeliness standards for each step in the process, the reports accompanying each step in the process, and the procedures for correcting problems, all be fully specified and communicated in advance of system testing. A typical system might contain the following elements:

- **Batch submission.** Standards might include minimum and maximum batch size, communications protocols, and communications reports (national EDI standards could impact on these processes, as discussed earlier).
- **Batch balancing.** This is usually a pre-edit report that confirms elements such as the file size and number of records received.
- **Edit reports.** These reports summarize the fate of the records as the batch is processed through the MMIS or data warehouse system. The reports should include encounter record status. There are many variations of practice in how records are handled after editing, e.g. whether individual records or entire batches are rejected, and under what conditions; whether records are rejected, pended, or accepted with exception codes; how batches or individual records are transmitted from the State back to MCOs.
- **Resubmission standards.** Issues include how resubmitted records are to be connected to the original submission; whether adjustment records are used as opposed to a void/resubmit process; how resubmitted records will be edited and the results of the edits communicated to the MCOs; how and on what schedule the data warehouse will be updated.

In general, MCOs have much less sophisticated information systems than states. One of the typical constraints of these systems is their inability to identify specific records (claims, encounters, etc.) and resubmit them to the state if errors have been detected. Even in situations where states have retained the MCOs internal tracking number on the submitted record (ECN), MCOs still have trouble only resubmitting the particular identified record once it has been corrected.

The result of this MCO system constraint is that most MCOs resubmit an entire batch of records when they are resubmitting corrected records; this batch contains both rejected and accepted records. If the state does not check for duplicates in these resubmissions they will have duplicate records in the state's system. This problem is exacerbated by the fact that in an effort to limit the complexity of information submitted by the MCOs, the state often does not receive enough information to accurately identify and reject duplicated records. For these reasons many states have adopted the following process for dealing with data submissions and resubmissions.

First, states should employ a two-step data evaluation and edit process. At the first step, the state should evaluate the entire submission from the MCO and check for gross errors in data submission including: valid and complete information in all key fields (Medicaid ID, Provider ID, diagnosis code, procedure code, date of service, etc.). If the submission fails to pass the standards set for these key fields the entire submission should be rejected and then resubmitted in its entirety by the MCO when they have made the necessary corrections. Once the submission is

able to pass these first step edits the records should be accepted into the state's system and additional, finer edits should be performed. No data from the second step of the editing process should be rejected by the state. Instead the state should evaluate the quality of the data which are retained in the system and send data quality reports and recommendations for improvement to the MCOs.

By using this two step process a number of problems are avoided. First, the state should dramatically reduce the likelihood of receiving duplicate records into its system. Second, data should flow more quickly into the state system because the complexity of resubmitting data by the MCOs should be greatly reduced. Third, while there will continue to be data quality problems with the MCO data in the state system, they should be much less severe because of the edits performed in the first step.

7. Timeliness of Data Receipt

Managed care has changed the incentives around timeliness of data receipt between the provider and payer of service. In a capitated setting, the State pays the MCO in advance for services that will be provided. Therefore, each encounter represents a service that has already been paid for. In this scenario, there is no reason why the MCO should not submit encounters to the State quickly. However, the MCOs are dependent on their providers for data submission. Those providers who are capitated may not submit complete data, and those providers who are paid fee-for-service may not submit all of their claims in a timely fashion.

Perhaps the key to setting timeliness standards in today's complex managed care environment is to balance the need for *complete* data with the need for *timely* data. The MCOs will need a certain amount of "lag time" to collect complete inpatient and outpatient service information from their providers. In addition, regular changes in recipient eligibility and MCO enrollment may lead to enrollment reconciliations that may take a month or two to process. Should errors in the data be found, however, it becomes more difficult to make corrections the longer the time period from the service to encounter submission.

- One option is to **set different timeliness standards for different types of encounters**. For example, inpatient encounters typically are of longer duration and greater complexity than ambulatory encounters. Therefore, States may opt to give MCOs more time to submit inpatient encounters. For example, one State allows MCOs 60 days from the month in which the service occurred to submit inpatient encounters to the Fiscal Agent, but only 30 days for all other types of encounters.

- Another strategy is to **set multiple timeliness standards**. For example, one State requires its managed care providers to submit **at least** 50 percent of all encounter data collected in a month at least once per calendar month, and requires that **all** encounters be submitted within 180 days of date of service. In other words, at least 50 percent of August's encounters must be submitted by the end of August, and all of August's encounters must be submitted by the following February. Another State requires that all encounters that were **received** by the MCO during a month must be submitted by the middle of the following month, with all encounters received within 180 days of the date of service.

- States should also consider specifying **standards for the timeliness of data resubmission**. In many cases, especially in the early months of managed care implementation, some portion of the encounter data may not meet the State's completeness or accuracy standards. In this case, the data would be returned to the MCO, which would then be responsible for correcting the problems and resubmitting the data to the State or its Fiscal Agent. One State requires its MCOs to submit corrected encounters within 63 days from the date the MCO was notified of the data errors. However, other time frames may well be possible depending on a variety of factors.

8. MCO Summary Data Reporting

In addition to requiring MCOs to submit records of all services provided to members of their MCOs, the state should also require the MCOs to submit, on a systematic basis, a summary report of the utilization and expenditures for its members. These reports should be submitted at least quarterly, and if possible on a monthly basis.

These reports serve two functions. First, they can be used to assess the MCO's ability to provide services to Medicaid members. While these reports will not be detailed enough to tell the State a great deal about the level of access utilization for sub-populations, the State can determine generally whether the MCO is providing services at approximately the level expected by the State. The second purpose of the summary report is for comparison to the encounter data submission. In most cases the MCOs will develop the reports from a variety of information sources at the MCO, not solely the encounter data system. Comparing the summary report to the encounter data submission by the MCO gives the State an opportunity to assess the completeness of the submitted encounters.

By data reporting, we mean summary reports describing data submission, rather than analyses of individual data elements. Medicaid managed care RFPs and contracts should contain detailed information on the State's expectations regarding MCO reporting. At a minimum, States should consider including the following types of information in the RFP and contract:

- **A discussion of the State's philosophy on data reporting**. For example, some States may be more comfortable creating certain reports internally from the MCOs' encounter data after they have passed through the MMIS system, while other States may prefer to delegate analytic reporting to the MCOs or to the Fiscal Agent. Clarifying reporting roles is particularly important in Medicaid program management because of the presence of a third party -- the External Quality Review Organization -- which will also be responsible for some portion of the reporting function.
- **Table shells for required reports**. Specifying the table shells (i.e., the report format) provides the State with consistently formatted information from each MCO/data source. As discussed in the section on defining data elements, States should use existing standards wherever possible (e.g., HCFA standard definitions for provider specialty, ICD-9 diagnosis codes). Also, States that plan to require MCOs to submit reports on specific utilization, access or quality measures should consider using "industry-standard" specifications for these

measures (e.g., Medicaid HEDIS). The appendices contain table shells for a wide variety of reports.

- **Detailed instructions on the frequency of reporting and the time period on which the MCO should be reporting**. The reporting frequency will vary from report to report. For example, reports on family planning or EPSDT services may be created annually. Enrollment activity reports, however, may be run quarterly, or even monthly during the early implementation phase of the program.
- **Detailed definitions of all data elements included in each report**. For example, if a certain report is to be run on "obstetrical providers" only, the State should specify how those providers should be identified (e.g., all providers who spend at least 60 percent of their time providing obstetrical services, which are defined as CPT range 59000-59899).

9. Incentives

Many Medicaid agencies include positive incentives and negative incentives (i.e., sanctions) in their managed care organization contracts for encounter data submission. At least one State provides cash payments to MCOs who reach specified program performance standards, as measured by encounter data. Sanctions can take one of several forms: withholds, or delays in paying capitation amounts until standards are met; or monetary fines for failure to meet standards; or restrictions on enrollment or auto-assignment.

Negative incentives are most frequently targeted at the timeliness and accuracy of encounter data submission, probably because these are the types of penalties that were commonly used in MMIS contracts in the traditional fee-for-service world. However, positive and negative incentives can be developed for any of the contract and RFP topics identified in this Section as illustrated by the sample contract language below:

- **Information systems**. For example, "MCO information systems must be able to process both membership enrollment and claims/encounters in either a real-time or batch mode. These basic capabilities must be available within ____ days of program initiation. If they are not, the State will withhold ____ percent of the MCO's capitation payments until the capabilities are present."
- **Data collection standards**. For example, "The managed care organization must provide on each professional encounter the following ____ data elements. If fewer than 90 percent of the professional encounters capture these data elements, the State will withhold ____ percent of the MCO's monthly capitation payment until the standard is met."
- **Timeliness of data submission**. For example, "At least 95 percent of the encounters will be submitted within 180 days of the dates the services were performed. If this timeliness standard is not met, ____ percent of the MCO's monthly capitation payment will be withheld each month until the encounter data are complete." One state adopted this standard, and permanently withheld payment from two MCOs that did not meet the standard after one year.
- **Data completeness and accuracy**. For example, "Provider identification numbers must be present and valid on 100 percent of submitted encounters. If this standard is not met, ____ percent of the MCO's monthly capitation payment will be withheld for each month in which the standard is not met."

- **Data reporting**. For example, “Each MCO must submit to the State by April 1997 all of the Medicaid HEDIS quality measures for calendar year 1996 experience. MCOs can use the administrative, medical record, or hybrid method for creating the measures. MCOs that do not submit the full measure set by the end of April will be penalized $10,000.”

If states choose to include incentives in their contracts, the incentives should be realistic, incremental, and measurable. This approach allows the MCOs the opportunity to fairly comply and facilitates the state’s ability to identify the problem and apply a set of progressively more rigorous sanctions. Most of all, **the state must be prepared to enforce any sanctions**. Some States have launched managed care programs without spelling out sanctionable actions; others have included unrealistic expectations for MCO performance. Too many States have not enforced sanctions on basic items like timeliness of data submission, and have no data to show for their efforts.

The sanctions described above are all tied to process measures, not to patient health outcomes. As information systems and outcomes measures evolve in the near future, it may be more appropriate to link sanctions not to the items above, but to health outcomes (e.g., for patients identified with a total cholesterol level above 205, how many were referred to a nutritionist, and how many then had an appointment with an approved nutritionist?). States should also consider positive incentives to reward and encourage MCOs that have met data submission requirements. An example of such an incentive is for the state to favor compliant MCOs with increased rates of auto-assignment of enrollees to their MCO.

In general, whether a state chooses to use incentives or sanctions is often determined by the historical use of these tools by the Medicaid agency. Some states have historically used these tools very effectively and providers, MCOs, physicians and hospitals are accustomed to this process. For other states, the sanction tool will be very foreign and may produce enormous bad will with the MCOs. In addition, in states where the number of MCOs is very limited and access to managed care is difficult, states may choose other approaches to working with the MCOs for fear that too strong sanctions may result in withdrawal by the MCO from the Medicaid managed care program in general.

Regardless of whether a state chooses to use incentives or sanctions, the first and most successful method of ensuring encounter data submission is a partnership approach with the MCOs. The state must establish a clear and consistent communication method with the MCOs and use this as the primary method for seeking cooperation with the MCOs. While incentives may be an effective way of modifying MCO behavior, sanctions are tactics that are reserved for extreme situations and should not be the first method chosen by the state.

VIII. IMPROVING DATA QUALITY

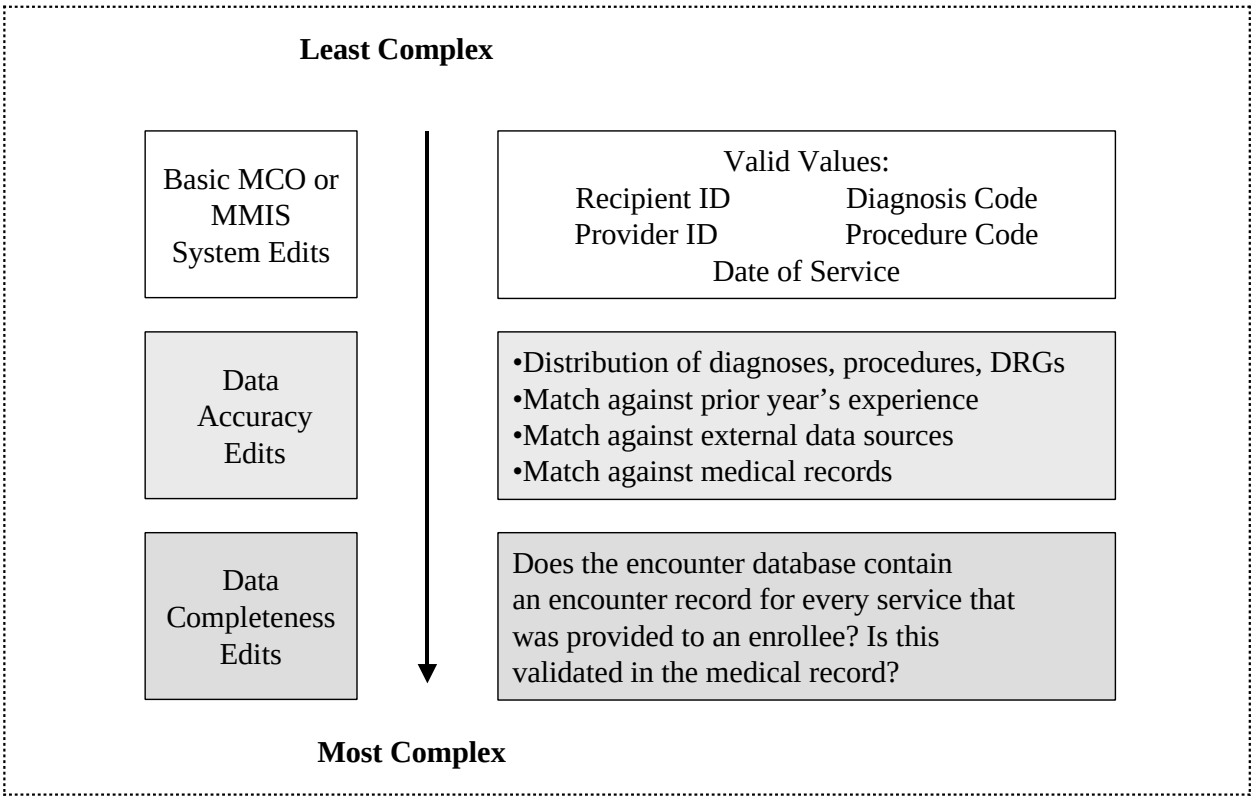
Before encounter data can be usefully employed for management or policy decisions, stakeholders in the system must be confident that the data are **complete** and contain **accurate** information. This step is called **data quality assessment.** The primary goals of managed care data quality assessment are: (1) to quantify the accuracy of the information collected (e.g., diagnoses are present on all encounters and are coded correctly), and (2) to quantify its completeness (i.e., insure that encounters are being submitted for 100 percent of the services that are provided). In the data collection phase, the State is concerned that it is receiving all the encounters submitted, and that the codes on those encounters are present and "correct" in the sense that they are correctly formatted, legal codes within the coding systems being used.

Data quality assessment activities are sometimes called data "validation," but in this guide we are reserving the term "validation" to describe the process of checking encounter data records against medical records. In the data validation phase, the State is concerned with validating that encounter data reflects the actual delivery of medical care in the managed care program. Data quality assessment activities are, strictly speaking, just as much "validation" activities as those we are calling "data validation;" we make the distinction here purely in the interest of clarity.

While the data quality assessment process can be challenging, it provides both the State and the MCOs with detailed insights into data system strengths and weaknesses, and a clear roadmap of how to make improvements. This section is designed to assist States in identifying problems with data completeness and accuracy, and developing strategies to correct those problems. Appendix I contains examples of data quality assessment reports.

In 1995, the National Committee for Quality Assurance (NCQA) released the HEDIS Pilot Report Card Study, which included the largest-scale managed care data quality assessment study to date (NCQA, 1995a). The purpose of the assessment portion of the Report Card Study was to ensure that the MCOs represented in the Report Card created the selected HEDIS measures in a consistent and accurate manner. The assessment study comprised activities in all three of the assessment categories described above: (1) a review of each MCO's information system and its edits, (2) a data accuracy edit, and (3) a data completeness edit. The accuracy and completeness edits were conducted using medical records. The NCQA assessment study also included an audit of the programming code used by the organization to create the HEDIS measures out of the underlying encounter data. The findings of the HEDIS Pilot Report Card Study underscored the enormous potential for error when relying on self-reported data, and the powerful role data quality assessment can play in ensuring the data are accurate. **No data source should be considered accurate unless data quality assessment activities in all three of the categories defined above have been conducted.**

The NCQA report card work, while directed at HEDIS measures, incorporates many of the same techniques used for assessing encounter data quality, since many of the measures included in HEDIS are calculated based on administrative (encounter) data. NCQA has also developed a set of certification criteria for MCOs, which are incorporated into their accreditation process. Where applicable, similar processes and criteria have been used to assess the quality of encounter data.



Data completeness and accuracy standards should clearly define which responsibilities belong to the MCOs and which responsibilities belong to the State. For example, the State may expect each MCO to conduct a medical record-based data validation study, and to meet all the standards identified above. The State, in turn, may "audit" the soundness of the MCO's data validation study, and may apply edits to the encounter data to ensure that the MCO has met all the itemized standards (e.g., procedure code validity). Until the State is confident that the MCO data are of acceptable quality, it will have to conduct its own tests on top of the MCO's data quality activities.

The schematic above depicts types of data edits to be performed on encounters to insure data quality. The next three subsections in this section provide a more detailed discussion of these varied levels of edits.

A. BASIC MCO/MMIS SYSTEM EDITS

These are automated edits that should exist in both managed care organization information systems and in the Medicaid Management Information System. They ensure that the encounter and claims records contain valid values for key fields, such as Enrollee ID, Provider ID, Date of Service, and sometimes Diagnosis and Procedure. They also ensure that the Enrollee is truly a member of the managed care organization, that the Date of Service isn't prior to the patient's enrollment date, and so on. Without these key data elements, the encounter should not progress through the information system.

B. DATA ACCURACY EDITS

These are edits that verify the accuracy of the information present in a certain field, or in a distribution of encounter records. The basic system edits just described may tell you that a particular diagnosis code is valid (i.e., it exists in the ICD-9 book), but only by running a diagnosis distribution report will you be able to tell if there is a problem with the accuracy of the diagnosis codes. For example, a distribution report may show you that 31 percent of your encounters had a diagnosis of rheumatic fever. When you check these records against the patients' medical records, you find that the diagnoses were assigned incorrectly.

C. DATA COMPLETENESS ASSESSMENTS

Data completeness assessments, the most complex of the data editing processes, require combining information from a variety of sources and developing measures which reveal the logical relationships between the data. While system and data accuracy edits can often be performed with little external information, the same is not true for data completeness assessments. To effectively perform this review the state needs the following types of information:

- Program description: first the state must determine what benefits are covered under the managed care program so that a high level review can be done to determine whether encounter data records are being received for all covered services. For instance, if the state has a managed care or prescription drug subcontractor one needs to confirm that the state is not receiving encounter data records for these services.
- Historical information: while one expects that the level of utilization will be different under managed care compared to historical fee for service, the historical fee for service data continue to serve as a good initial starting point for evaluating the completeness of the encounter data (NCQA, 1998). Estimates of the expected level of utilization, adjusted for a managed care environment, by type of service, age, and eligibility category should be developed and used for comparison to the rates of encounters received from the managed care organizations. These comparisons will reveal not only reduced levels of encounters but also areas where there are no encounters being reported. Examples of this type of report are shown in Appendix J.
- Logical relationships and comparisons: a third technique which can be used to determine the completeness of the data is an analysis of the logical relationships between the encounter data records as well as comparisons to other managed care information. For instance, one expects to see outpatient visits if there are prescription drug encounters; or one expects to see outpatient visits before and after a hospitalization. While one can always point to situations where it would be correct that these services did not exist, in general they should. If the managed care organization is not completely submitting some types of records it can be revealed through reviews of this type. In addition, comparisons can be made to other information which one receives about the managed care organization. For instance, one can check for enrollment of infants and then look in the encounter data file to see if there is a record of a delivery. Not every baby will be born at the organization where it is later enrolled, but the vast majority will.

- Organization-reported information: As discussed earlier, MCOs should be asked to submit self-reported summary information on utilization and cost on a regular basis. The state should calculate similar measures to those that are self-reported from the encounter data and use those findings as an additional verification of the completeness of the encounter data.

D. SYSTEMS ISSUES IN ASSESSING DATA COMPLETENESS

While issues of data completeness come to the attention of the state once encounter data are submitted, the root of the problem often begins at the provider's office or in the processing system of the managed care organization. In this section we discuss specific issues which may be confronted at the managed care organization and the state as well as techniques which can be used to assess the completeness of the encounter data once it has been received by the state.

1. Getting the Data into the MCO's MIS

In a typical MCO, capitated providers do not always complete encounter forms for every patient they see. As a result, there is a lower-than-expected flow of encounter data into the MCO's MIS. This problem is often widespread, but it is often the result of a subset of providers (e.g., one multi-specialty group doesn't submit encounters) or even a subset of services (e.g., none of the PCPs understand how to record and submit information on EPSDT services).

The most comprehensive solution is to modify the behavior of the MCO's provider community, which can be a lengthy and expensive process. Some MCOs have instituted financial penalties for non-submission, while others have attempted to work with the provider community to ensure that the encounter forms are acceptable to them, and/or that they have the appropriate communications capabilities to submit encounters electronically. In the EPSDT example above, the providers and their billing/administrative staff may benefit from a short orientation to EPSDT and an explanation of the form(s) used to record those services.

2. Getting the Data Through the MCO's MIS

Once the encounter records enter the MCO's MIS, they hit against a number of edits. First, the MIS must verify that the patient is truly enrolled in the MCO. This step is dependent on accurate, timely eligibility data that comes from either the State or its Fiscal Agent. The MIS may contain other edits that determine whether the service performed is included in a capitation rate or should be paid on a fee-for-service basis, whether the service required a referral, whether the provider is a valid organization provider, and so on. The system should also include numerous other edits that validate the content of the encounter data record (e.g., validity of diagnosis and procedure codes, date fields, etc.). These edits will pend or deny the encounter records if they don't meet the acceptance criteria embedded in the edits.

Solutions: The MCO should review the encounter records that are being rejected or pended by the MIS. Are most of them related to enrollment? If so, the problem may lie with the transfer of enrollment information from the State or the enrollment broker to the MCO. Are many

encounters being submitted with missing or invalid diagnosis and procedure codes? In this scenario, the organization may have to go back to the provider's office staff to correct the procedures they are following to complete encounters.

3. Getting Clean Data Out of the MCO's MIS and Into the State's MMIS

The encounter records that make it through the MCO's MIS must then be sent to the State in a State-specified format. Once it is received by the State, the data will either be loaded into the State's MMIS, or loaded into a separate, stand-alone system. Some MCOs may have difficulties translating their data into the State-defined data format that is accepted by the MMIS. EDI standards, discussed earlier, come into play at this point.

Solutions: Get the State and the MCO information systems staff together to review data transmission standards. Define testing procedures to be used to submit, edit and return test data sets. Be sure that batch reports are sufficiently complete to identify problems, and are clear to MCO IT staff. Follow standard software pre-production testing procedures that are as similar as possible to those already familiar to IT staff.

4. Getting the Data Through the MMIS

This is similar to #2. If the MMIS has not been successfully modified to handle managed care data, it may be running encounter records against edits that were designed for fee-for-service claims records. For example, encounter records may not have charge or payment amounts on them. If the MMIS treats them like claims records, it may be programmed to reject any "claim" with a charge amount of $0 or "missing." Another example is that, under fee-for-service, the Medicaid program may not cover a particular service. Under a capitated managed care program, however, the MCO has the right to provide additional services to the recipient at no additional cost to the State. If a provider submits an encounter for a service that isn't covered under the traditional fee-for-service program, the MMIS may deny the encounter because the service isn't "covered."

Plan ahead, as discussed earlier. Modifying the MMIS to process encounter data appropriately is typically one of the most time consuming activities in the implementation of encounter data systems. MMIS throughput has proven to be a significant problem in a number of states. One state "solved" this problem by having its Fiscal Agent shut off virtually all of the MMIS edits that were running against the encounter data. We do not recommend this as an acceptable solution because of the high probability that the MMIS will accept many encounters with real data quality problems. It is essential that MMIS edits reflect the data element definition decisions made earlier. The State should meet with the MMIS vendor and with MCOs to review categories of MMIS edits and discuss where modifications should be made to accept encounters in addition to claims, as discussed in the section on work groups. This discussion should take place well before the managed care program is implemented in order to give the MMIS vendor ample time to implement the necessary changes.

E. ANALYTIC STRATEGIES FOR ASSESSING DATA COMPLETENESS

1. Add a Descriptive Statistics Report to the Initial Data Editing Module

This simple procedure can often catch problems before they incur additional machine and personnel time in processing. Often, the statistic of choice is a frequency distribution, run on a few critical fields (with nominal values), such as MCO ID, month of service, or type of service.

2. Run Program Monitoring Reports, But Flag Questionable Data Elements

Remember the Law of Data Quality: **use creates quality**. Before program monitoring reports are run "for real," run them for the purpose of testing data quality. Trained health care analysts can often sniff out data problems by spotting "incredible" results in reports. You may then be able to flag the data elements -- or the data contributors -- which are of questionable quality. This may be especially effective in reports that make MCO-to-MCO comparisons.

3. Comparisons to Fee-for-Service or PCCM Utilization Rates

Another data quality assessment option is to create utilization rates for ranges of services and make comparisons between: (1) historical rates (pre-managed care implementation) and current managed care rates, or (2) current rates for different service delivery models that exist in the State (e.g., traditional fee-for-service, PCCM and capitated MCOs). Unlike medical record validation, this strategy will **not** provide you with detailed information regarding weaknesses in your encounter data. It will, however, provide you with an **estimate** of where those problems may be. As a next step, you then may want to conduct a targeted data validation study using medical records.

There are several methodological issues to consider when comparing MCO and fee-for-service data. A report summarizing these issues, prepared for HCFA in 1998, is included as Appendix J.

A logical choice may be to create utilization rates by category of service for each eligibility category enrolled in managed care. For example, the following report, labeled Exhibit VIII-1, could be run on one year of historical data to create a baseline (e.g., 1997), and then run on one year of managed care experience (e.g., 1998). These reports could be run both in the aggregate (i.e., all managed care organizations combined) and separately by managed care organization. Keep in mind that if your State has expanded its eligibility categories as part of the managed care program, you may not have access to baseline utilization information for the new eligibles.

It would not be unusual to see a drop in service utilization/member month under managed care, particularly if providers are moving from fee-for-service reimbursement to capitation. However, this behavioral influence should not cause significant shifts in service use. Large, downward swings in utilization (e.g., 30 percent drops) may be due to incomplete encounter data submission rather than provider practice patterns. To know for certain, it would be necessary to conduct a medical record-based data validation study, as discussed in the next section.

EXHIBIT VIII-1
Service Utilization Per Member Month
Baseline Report (Pre-Implementation)
1997

ELIGIBILITY GROUP	CATEGORY OF SERVICE					
	Office Visit	**Lab/X-ray**	**EPSDT**	**ER visit**	**Maternity - related visit**	**Inpatient Admissions**
AFDC						
0-2 yr.	#/member month	#/member month	#/member month	#/member month	N/A	#/member month
3-6 yr.						
7-10 yr.						
11-20 yr.						
21-39 yr.						
40-64 yr.						
SSI						
0-10 yr.						
11-20 yr.						
21-39 yr.						
Expanded Eligibility Categories						
0-10 yr.						
11-20 yr.						
21-39 yr.						

Another logical "next step" is to provide the analysis results back to the MCOs and then meet with them to identify the source(s) of the discrepancy. For example, an MCO may receive primary care encounters from all but two of its group practices; their inability to submit data may drop the MCO's overall utilization rates to an artificially low number. If the MCO cannot identify the source of the problem, it may be appropriate for the State to request a medical record-based validation study. Once the source of the problem has been identified, the State can work with the MCO to develop a plan to solve the problem.

4. Comparisons to Self-Reported MCO Data

Another option is to compare the State's encounter data to rates or statistics that are compiled internally by the MCOs and then provided to the State. Assuming that the MCOs are submitting full encounter data to the State, and are defining data elements in the same manner as the State, there should be no difference between the two sets of statistics. In other words, if the State's encounter data show that MCO A performed 67 tonsillectomies, MCO A's report should also show 67 tonsillectomies. If the numbers are not the same, the State should first ensure that the MCO used the same methods to derive the rates as the State did. If that doesn't explain the discrepancy, the MCO should investigate the issue further. It may be that the MCO did not submit all encounters to the State. Exhibit VIII-2 presents some options for making comparisons.

EXHIBIT VIII-2
Sample Comparison Report
State vs. MCO Self Reported Data
(for services incurred between XX/98 and YY/98)

MEASURE	MCO Value	State Value
Inpatient Discharges		
Inpatient LOS Overall By high volume DRGs By eligibility category/patient cohort		
Ambulatory Surgeries Total # surgeries by high volume CPT codes or by ambulatory surgery categories Total # surgeries/1,000 enrollees by high volume CPT codes or by ambulatory surgery categories		
Number of Providers Primary care physicians Specialists Other (e.g., mental health providers)		
Number of Enrollees Total # By eligibility category By age/gender categories		
Number of Users (i.e., enrollees who used services) Total # By eligibility category By age/gender categories		
Visits Total # #/enrollee #/user by visit categories (e.g., well child, well adult, ob/gyn, mental health, substance abuse, etc.)		
Other Services (e.g., prescription drug) Total # #/enrollee #/user by service category		

5. Comparisons to Other State Databases

States may have other statewide databases that can be compared to the managed care encounter data in an effort to evaluate its accuracy and completeness. We present a few examples here.

a) Discharge Databases

Many States require hospitals to submit information on every patient discharged from their facility, regardless of payer. These "discharge abstracts" contain detailed information on each patient's hospital stay, including the patient's diagnosis, source of payment, length of stay, and total charges. These data are compiled into annual discharge databases that typically are made available for sale.

States that have access to discharge information can compare it to discharge information included in the encounter data system. For example, the State can calculate inpatient discharges for each hospital using both the encounter data and the discharge data and compare the two. If the encounter data contain fewer discharges, they may be incomplete.

There are two caveats to this approach. First, discharge databases are typically two years behind by the time they are released (i.e., 1998 data becomes available in 2000). Second, the discharge data may not distinguish between Medicaid managed care discharges and Medicaid fee-for-service discharges. In this case, the State would have to link its monthly enrollment information to the discharge database, using Patient ID as the linking data element, to identify just those patients that were enrolled in managed care. The difficulty is that beneficiary/patient identifiers may differ or may be unavailable.

b) Public Health Databases

Some States capture state-wide public health information such as childhood immunizations, AIDS cases, TB cases, newborn deliveries, and so on. Many of these data are also reported by the Centers for Disease Control. Depending on the completeness of these data, you may be able to make comparisons to the encounter data. For example, if the State captures immunization activity on every child in the State, you may be able to make immunization-specific (e.g., DTP, HiB, MMR) comparisons between the two data sources.

Where encounters are found to be missing or incomplete, it may be possible to use registry data to augment the existing encounter data. If the State's registry (e.g., immunization database) also contains a data element for insurance status, you may be able to stratify the rates by insurance status and only use the Medicaid rate to compare to your own experience.

6. Completeness and Accuracy Standards for Specific Data Elements

Lastly, States should consider conducting "reality checks" on the individual data elements received from their managed care vendors. Over the years, States and their MMIS vendors have gained considerable experience in identifying data accuracy and completeness problems. This experience can be leveraged to: (1) develop a set of expectations regarding the accuracy and completeness of key data elements and (2) apply those expectations to the encounter data. Along with Appendix F, this section presents examples of these standards. These examples were derived from 13 years of experience gained by The MEDSTAT Group in cleaning, combining and analyzing data from five State Medicaid Agencies. This work, which resulted in the State Medicaid Research Files (SMRF), was funded by HCFA.

First, here are some general guidelines:

- **Time** - "Time" data elements include Date of Service, Date of Payment (where relevant) and distribution of Dates of Service by provider. If looking at a full year of operational experience, each month should comprise approximately 5-11 percent of the annual encounter volume. This should be consistent across all experience and within each provider.
- **Provider** - If the provider is active within the managed care program, the number of encounters per month should remain fairly constant across time with no unusual dips or peaks. If available, compare the number of Medicaid patients each provider saw per month to the total number of patients. This percentage should be reasonable given the standards set by the State.
- **Type of Service** - There should be a variety of services represented in the encounter data. That is, physicians should not just be submitting "visit" encounters. There should be x-rays, lab tests, surgical procedures, injections, etc.
- **Eligibility Groups** - All eligibility categories should be represented. This is especially important if the State has multiple managed care options available at the same time (e.g., PCCM and capitated programs), as well as traditional services. It is critical that everyone receiving services is represented in the data.
- **Age-Appropriate Level of Care** - For example, there should be a consistent correlation between number of EPSDT screens (or well child visits) that were received, and the number of children in each age group. This correlation should be based on the State's periodicity schedule and the average number of months of eligibility for children in each age group.

These data quality checks are meant to be guides that can be adjusted to best reflect each State's experience; this especially holds true for the "percent valid" criteria. See Appendix F for a complete list of data element standards.

F. STRATEGIES FOR IMPROVING DATA QUALITY

This section discusses strategies for improving encounter data quality. Bear in mind, however, that this is not a one time event; data quality improvement is an ongoing process which requires continued attention. Managed Care Organizations that are successfully collecting and submitting

encounter data may suddenly fail at all steps in the process because they have been acquired or merged with another organization or have introduced a new information system.

1. Paddle Upstream From The Problem

If we conceptualize the flow of data as downstream from the rendering provider to the State data warehouse, we should pursue problems by moving systematically upstream from the occurrence of the problem. This approach underscores the importance of maintaining a well-documented model of the data submission process. To use another metaphor, this process is also often called "peeling the onion." If the State uncovers a problem with data accuracy from a particular MCO, require the MCO (or help the MCO) to investigate the problem further. For example, is it due to a particular group practice or provider? Is there a problem with the data submission software that links provider offices to the MCO MIS? Do missing diagnoses get coded with a default ICD-9-CM code? Each of these problems would have different solutions.

2. Assign Priorities To Every Problem

If the problem impacts a set of services or data elements that you are not planning to analyze in the near future, it may make sense to set the problem as a low priority and focus immediately on other, bigger problems.

3. Conduct A Site Visit To The MCO

Site visits can be valuable exercises, especially if the State delegates a lot of reporting to the MCOs rather than using the fiscal agent (FA), the EQRO, or internal State resources. States may want to use a site visit as a means to dig deeper into a problematic area that was identified through one of the other data quality assessment strategies. A site visit helps the State continue to "paddle upstream" by reviewing MCO level data quality assessments. Appendix H contains a very detailed site visit interview guide that can be used for these purposes.

In an IPA or network model organization, a site visit can be used to determine if particular physician groups are contributing significantly to encounter data problems. By using the site visit guide in Appendix H, a State should be able to track the flow of information from the physician's examination room, to the group's billing office (which may be off-site), to the MCO and pinpoint where the process falls short.

4. Obtain Work Plans From The Managed Care Organizations Describing The Timing And Content Of A Solution

A critical success factor is the development of work plans designed to solve identified problems. This "action" document should be prepared by the MCO with input from the State, and should include completion dates for each task identified. If the problem stems from less-than-complete encounter submission, the work plan should include a task to obtain input from the managed care providers -- the source of all encounter data. The State may already have penalties in place that

can be levied in this process as an incentive to change. The improvement plan will benefit greatly from provider buy-in.

5. Create A Purchaser Coalition

Keep in mind that the problems you have uncovered are probably also problems for other managed care organization customers. You may want to consider creating a coalition of managed care purchasers who, in combination, may be in a better position to influence the speed with which managed care data quality and completeness are improved.

6. Create A "Best Practices" Guide

The State could compile a list of best-practices regarding methods used by MCOs to assess and improve encounter data quality. These best practices could be blinded and summarized in a guide to be shared with MCOs within and across states. Such a guide would provide the MCOs with detailed information on what other MCOs have implemented to address common problems.

IX. VALIDATING ENCOUNTER DATA

A. WHY VALIDATE ENCOUNTER DATA?

Managed care organizations spend considerable resources on information systems. They may have provided the State with detailed information on their data quality procedures and have committed to provide the State with accurate, complete information on recipient service use. Given all that, is data validation really necessary? Absolutely, for several reasons.

1. Conducting Analyses Using Incomplete Or Inaccurate Data Can Lead Users To Draw Incorrect Conclusions

Consider the following scenarios. If the States in these scenarios had not conducted data validation studies, they would have drawn erroneous conclusions regarding the performance of their managed care programs**.**

- A State uses encounter data to study enrollee access to substance abuse services. The analysis shows that, of the enrollees diagnosed with substance abuse problems, almost 85 percent of them are receiving care through the State's subcontracted substance abuse vendor. The State is very pleased with these results.

  After validating the completeness of the encounter data, however, the State finds that encounters are missing from almost 1,000 primary care physicians. If these physicians had submitted encounters, the data would have revealed that the number of enrollees diagnosed with substance abuse problems is actually considerably higher. After adding those enrollees into the study, the State finds that, in reality, only 43 percent of enrollees received follow-up care through the substance abuse vendor. Based on these findings, the State calls in its EQRO contractor to conduct a special study on the access to care and quality of care provided by the substance abuse vendor. It also sets up a meeting with provider relations representatives from the contracted managed care organizations to discuss: (1) policies and procedures for referring patients to substance abuse treatment facilities, and (2) strategies for improving encounter data collection from the physicians.

- In another State, the number of patients diagnosed with asthma increases dramatically (49 percent) from the prior year, which was before the managed care program was implemented. However, the State's analyst finds no associated increase in the number of prescriptions filled for corticosteroids and other common asthma medications. The State's Medical Director is concerned that these patients, primarily children, are not receiving appropriate treatment for asthma. Prior to releasing these results, however, the State's analyst conducts a data validation study on a sample of the patients. She asks the State's EQRO to compare the diagnosis on the encounter record with the diagnosis in the patient's medical record. The study determines that, for two large multispecialty group practices, the diagnoses match on only 30 percent of the records. Further investigation reveals that these groups, which contract with two of the State's three managed care organizations, use standard encounter forms that contain pre-printed ICD-9 diagnoses. Asthma is the first diagnosis in the first column of the

form, and rather than search for or enter in the correct diagnosis, many providers are just circling the asthma diagnosis in a rush to complete the form.

Based on the results of the medical record validation study, the analyst determines that, in fact, the number of patients diagnosed with asthma is only marginally different from the prior years.

2. Data Validation Techniques Can Be Adapted To A Wide Range Of Data Problems, And Can Be Conducted In A Targeted Manner To Maximize Efficiency

For example, in 1997, a State determines that 12 percent of its PCPs are not submitting encounters to their MCOs, which means that the State is missing encounters for a significant portion of its patient population. Working with the MCOs, the State implements a program to correct the problem, and in 1998 conducts a data validation study targeted at those PCPs to determine if data capture has improved. Finding that it has improved, the State then plans to conduct a different study in 1999 that evaluates the quality of diagnosis coding.

3. Data Validation Is Required Under The Proposed Regulations Implementing The Balanced Budget Act

As discussed in Section II, sections 1902(a)(4) and (19) of the Balanced Budget Act, interpreted in Section 438.342 of the proposed regulations (health information systems), require that MCOs sponsor data validation activities. Both the BBA and QISMC regulations make it clear that the State is ultimately responsible for the completeness, accuracy, and validity of encounter data.

B. COMPARING ENCOUNTER DATA TO PATIENT MEDICAL RECORDS

Medical record review is the most powerful tool available for validating the completeness and accuracy of encounter data. While medical records are not an absolute "gold standard" of information on patient care, they are the best source of comparative data. Because they are expensive, medical record audits must be carefully defined and focused. The process becomes more cost-effective and less intrusive to the provider community if it can be combined with other data collection efforts, such as focused reviews for quality monitoring. Appendix K contains a report extensively comparing medical records and encounter data.

As mentioned above, the goal of data validation is to measure the completeness and the accuracy of the information being submitted by the MCOs and other providers. Quantifying encounter data *completeness* is the most challenging task. Completeness can be measured a number of different ways:

- ***False positives.*** A false positive occurs when the encounter data contain evidence of a service that is not documented in the patient's medical record. If we assume that the medical record contains complete information on the patient's medical history, a false positive may be

considered a fraudulent service; however, studies of medical records show that they are far from perfect in their capture of medical encounter information. Also, in a fully capitated environment the provider would receive no additional reimbursement for the submission of a false positive encounter.

- ***False negatives.*** A false negative occurs when the medical record contains evidence of a service that does not exist in the encounter data. This is the most common problem in partially or fully capitated MCOs because the provider does not need to submit an encounter in order to receive payment for the service, and therefore may have a weaker incentive to conform to data collection standards.
- ***True negatives.*** While true negatives do not represent a data completeness problem, they are important. True negatives are eligibles that have not received any services through the managed care organization, as evidenced by the absence of a medical record and any encounter data. True negatives signify potential access problems, and should be investigated by the managed care organizations. They are often referred to as nonusers.

This section presents two strategies for conducting encounter data validation using medical records. The first strategy uses the encounter as the unit of analysis. The second strategy uses the eligible as the unit of analysis. Each of these strategies can be used to quantify false positives and false negatives, and the second strategy can be used to identify true negatives.

1. Encounters As The Unit Of Analysis

By design, some false negatives and all true negatives will not be detected using this approach. However, this approach will capture false positives, and is the most effective at creating a representative sample of encounter data.

We use dates in the instructions below; they are illustrative, and should be replaced with dates that best meet each State's needs.

1. Using your encounter data file(s), extract all outpatient physician visits that took place between January 1 and July 31, 1998. (Over time, the state should extract all service types including inpatient, outpatient and ancillary service types, but outpatient physician visits are selected for this example.) Sort the file by managed care organization, because you will create a separate sample for each managed care organization. Depending on how much time the MCOs are given to submit encounters to the State, you may not have July's data until October, or even later.

2. This task should be performed within each managed care organization's eligible population. In other words, if you have five managed care organizations, you should have five random samples of 384 eligibles.

Using a random number generator (a common function in spreadsheet and statistical packages), assign a random number to each encounter, sort the encounters in ascending or descending order based on the random numbers, and pick the first 384 encounters[4].

3. Request from the managed care organizations the medical records for the patients represented by your sample of encounters. The MCO will need to know the patient's name, date of birth and identification number. [An option to requesting the entire record is requesting a photocopy of the medical record page(s) that contain information on the date(s) of service represented by your sample of 384. If the MCO staff don't find evidence of a service on the date(s) of interest, request that they send you photocopies of the services that took place just before and just after the missing service. These will be false positives.]

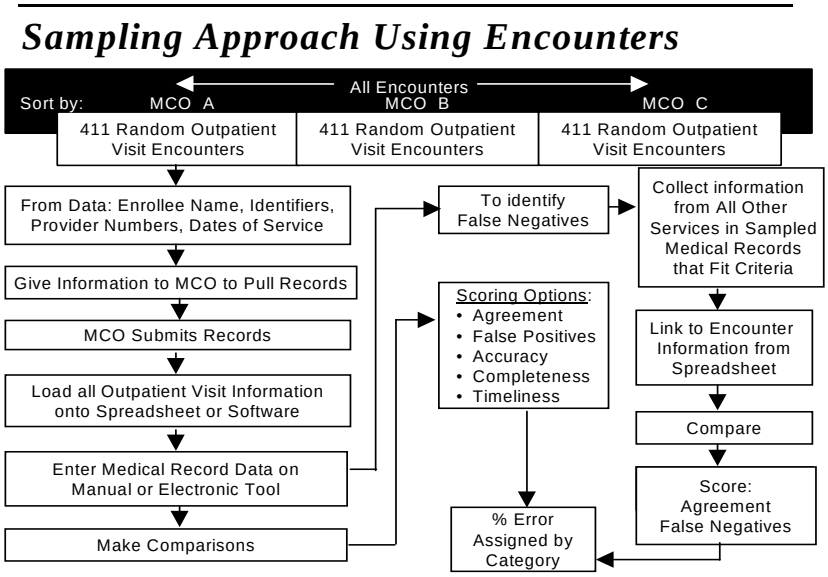
4. Abstract the medical record to obtain information on the encounter that was identified in the sample of 384. Enter this information into a spreadsheet or database product. The abstractor should capture, at a minimum, the patient name, date of birth and ID, the provider name and ID, the date of service, the diagnosis/diagnoses, and all services that were provided during the visit. These last two **data element**s will have to be coded by a coding expert -- medical records rarely contain ICD-9 or CPT codes.

5. Sort both the abstracted medical record data and the encounter data file by patient ID and date of service and compare the two. If an encounter exists but there was no evidence of the service in the medical record, count it as a false positive. Check the diagnosis and procedure(s) from the medical record against those on the encounter record. Do they match? If not, count them as data accuracy errors. Check the date of service against the date the encounter was received and/or processed by the MCO. Is it longer than the amount of time you allow the MCO prior to sending the encounter data to you? If so, count it as a timeliness error.

6. To identify false negatives, go back to your sample of medical records and abstract information on the service that immediately preceded or immediately followed the service that was included in the sample of 384. Then go back to the encounter data and extract the associated encounters. Services that do not appear in the encounter data should be counted as false negatives.

[4] The sample size of 384 observations is sufficient to obtain a value that comes within five percentage points of the "true" value (the value obtained if your sample size were equal to 100 percent of the observations) with 95 percent confidence. If a medical record is not obtainable for a sampled encounter, it can be replaced with another randomly drawn encounter. However, we recommend that you record the reason why a medical record was not available. These reasons could reflect weaknesses in MCO record-keeping practices.

The schematic below summarizes this strategy for using medical records to validate encounter data.



2. Eligibles As The Unit Of Analysis

In this example, the eligible is the unit of analysis. This strategy captures false negatives, false positives and true negatives if 100 percent of the relevant medical record entries are coded.

1. Using your eligibility file, extract all eligibles enrolled in a managed care organization at some point between August 1, 1997 and July 31, 1998. Sort the file by managed care organization, because you will create a separate sample for each managed care organization.

2. This task should be performed within each managed care organization's eligible population. In other words, if you have five managed care organizations, you should have five random samples of 384 eligibles.

   Using a random number generator (a common function in spreadsheet and statistical packages), assign a random number to each eligible, sort the eligibles in ascending or descending order based on the random numbers, and pick the first 384 eligibles.

3. Extract from the encounter data all outpatient visit encounters for each of the eligibles included in the random sample (dates of service between August 1, 1997 and July 31, 1998 only). This example focuses on outpatient visits because they are commonly missing from encounter data. Nevertheless, you can choose to review other types of services, also (e.g., lab services, inpatient care, durable medical equipment).

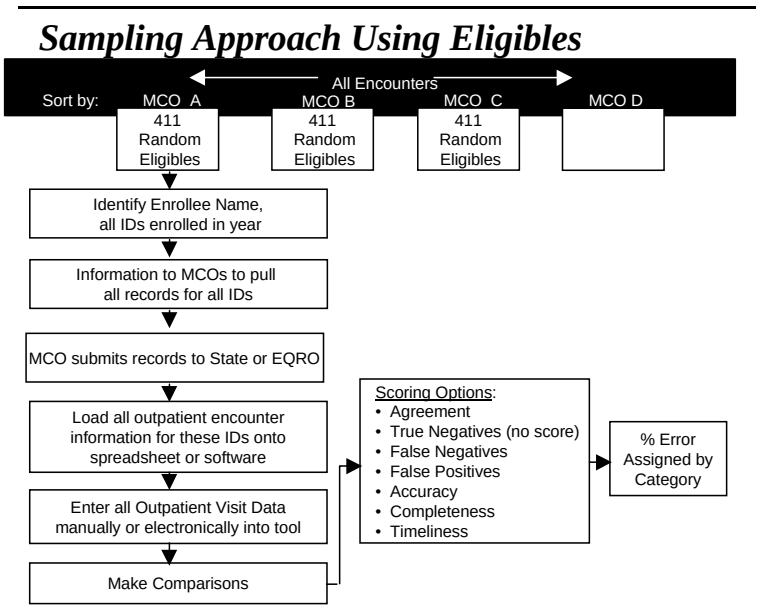
4. Send to each managed care organization a list of the selected eligibles. The list should include the eligible's name, date of birth and identification number. Request the medical records for all selected eligibles.

5. Abstract the medical records to obtain information on every outpatient visit that took place between August 1, 1997 and July 31, 1998.

6. Sort both the abstracted medical record data and the encounter data file by patient ID and date of service and compare the two. If an encounter exists but there was no evidence of the service in the medical record, count it as a false positive. If a service exists in the medical record but there is no accompanying encounter, count it as a false negative. Check the diagnosis and procedure(s) from the medical record against those on the encounter record. Do they match? If not, count them as data accuracy errors. Check the date of service against the date the encounter was received and/or processed by the MCO. Is it longer than the amount of time you allow the MCO prior to sending the encounter data to you? If so, count it as a timeliness error.

7. It is possible that your sample of eligibles will include individuals for whom you find no services in either the medical record or the encounter data. These are true negatives, and could represent access problems. These individuals should be followed up by the MCO to determine why they have not yet received any services.

The following schematic summarizes this approach to encounter data validation using medical records.



X. IMPLEMENTING MANAGED CARE PERFORMANCE MEASURES

This section addresses the question, "Now that I am receiving encounter data, how should I use it to monitor and evaluate my program's performance?" The power of encounter data lies in its *flexibility* -- it can be used to answer a wide range of questions about health care cost, use, access, and quality. When combined with other data sources (e.g., eligibility, patient functional status, patient satisfaction, physician characteristics), the power of encounter data increases exponentially.

It is important to note that when we speak of monitoring program performance, we mean the performance of the Medicaid managed care program as a whole, as well as the performance of individual MCOs. States must develop and apply measures that are appropriate to the level of analysis.

Monitoring or evaluating program performance is an iterative process. Your State may require its MCOs to submit specific HEDIS measures each year as part of the standard reporting process. These MCO-level measures provide the State with a high-level view of each MCO's performance, and they may identify some general areas of MCO weakness. For example, childhood immunization rates for three MCOs may be lower than expected. To find out **why** the rates are lower than expected, the State must move beyond HEDIS and determine through more detailed encounter data analysis if the problem is with specific providers/provider groups, specific geographic areas, the timing of the immunizations, specific groups of children, and so on. It would be impossible to take this next step without access to complete encounter data.

This section is divided into three main parts. In the first part, we describe interim strategies for monitoring program performance before encounter data systems are fully in place. This task has been faced by every State implementing managed care, since all States have encountered delays in making their encounter data systems operational. In the second part, we identify eight categories of measures that States may want to create to assess program performance, and we provide a detailed example of how to use, interpret and act on encounter data analyses that use some of these measures. In the third part, we present examples of industry-standard performance measures and discuss what to look for if you choose to use some of these measures.

A. INTERIM STRATEGIES FOR MONITORING PROGRAM PERFORMANCE WITHOUT ADEQUATE ENCOUNTER DATA

At the beginning of a managed care program, or when a new MCO comes into service, there will be a period (sometimes lengthy) before the encounter data system is operating correctly. If MCOs are lacking data elements that are critical to managed care program management and evaluation, you may have to identify other data sources in the interim while the MCO is resolving problems. Certain program monitoring activities can be performed without access to complete encounter data. Potential sources of information include:

1. Patient Medical Records

Many quality or outcomes measures can be created using abstracted medical record data in place of (or in addition to) encounter data. Medical records are an expensive form of information because they must be obtained from the provider (not a simple task, especially if recipients are allowed to disenroll and re-enroll in different managed care organizations or with different PCPs on a regular basis), abstracted by a trained coding expert or clinician, and the abstracted data must then be entered into a database for analysis. Medical record reviews are most efficiently used to study limited sub-populations of patients, for example those with chronic or expensive conditions.

2. MCO Self-reported Data

Although they may not be in standard formats, MCOs can usually produce basic reports of utilization and/or HEDIS rates. MCOs may have to use medical record review to create portions of the report where their data are weak.

3. Birth Certificates

In cases where newborn encounters do not contain five-digit ICD-9-CM diagnoses (the fifth digit defines the birth weight), the State can link in birth weight from birth certificates. It is important to note that the quality and completeness of birth certificate information varies from state to state. In some states, access to birth control records is very difficult to obtain.

4. Registration Records From MCOs Or Providers

MCOs and provider offices typically keep either paper or electronic logs of patient visits each day. Some large organizations (e.g., Kaiser) have registration systems that are an integral part of their MIS and contain information on the type of visit the patient received. These records could be useful for tracking utilization, particularly of primary care services, although they usually do not contain detailed information such as diagnoses and procedures performed.

5. Surveys

In the absence of complete encounter data, some MCOs conduct enrollee or provider surveys to obtain information on service ages of utilization. For example, one large network model HMO surveyed enrolled females between the ages of 50 and 64 years to determine whether they received a mammography in the last two years. This can be a questionable data collection strategy for two reasons. First, surveys are expensive to conduct, and the Medicaid population is an especially challenging one to target due to language and literacy problems, and a lower probability of having a permanent address and phone number. Second, the accuracy of self-reported information may be low, especially when the survey asks people to think back over a long period of time (i.e., more than three months before the survey date).

6. Public Health Records

Some Medicaid recipients may also receive services (e.g., immunizations) through the Public Health Department or public health clinics. This information could be used to supplement MCO encounter data.

B. CREATING AND INTERPRETING ENCOUNTER-BASED ANALYSES

This section provides examples of performance measures and reports that could be created from encounter data. Some of these reports may meet the encounter data objectives of the State, or can be easily modified to do so. Keep in mind that, as illustrated by the case study in this section, one report may serve multiple purposes. This may be a good strategy to adopt if you have resource constraints and cannot support extensive analytic activities.

1. Overview

There are several key service delivery characteristics that are critical to the success of any managed care program. In this section, we identify eight categories of MCO performance indicators that you may want to use, and examples of measures that can be created within each of these categories. Appendices L through U contain examples of performance indicator reports. The eight categories are:

- Key Indicators
- Utilization
- Quality of Care
- Access to Care
- Specific Populations and Targeted Studies
- Expenditures
- Fraud and Abuse
- Reports for MCOs

2. Key Indicators

A Key Indicators report is designed to produce the "30,000 foot view" picture of the Medicaid program -- enough detail to allow a Medicaid Director to track program performance, but not so much detail that the story gets lost. In general, Key Indicators should cover the following topics:

Program Dimensions	**Cut By:**
• Cost	• Geographic area
• Use	• Time period
• Quality	• Service Delivery model (e.g., traditional, PCCM, Capitated)
• Access	• MCO or Provider
• Enrollment	• Recipient Demographic characteristics
	• Patient risk/severity of illness/functional status

The analyses can be conducted on the following population cohorts (denominators):

- **Per beneficiary.** This denominator limits the analysis to those individuals enrolled in the Medicaid program.
- **Per eligible**. The count of eligibles is typically greater than the count of beneficiaries and reflects the number of individuals eligible for care through the Medicaid program.
- **Total beneficiaries**. This number would represent a snapshot in time because the beneficiary population typically changes monthly. Another option is to count "beneficiary months" -- the number of months during the time period of interest (typically a year) in which the beneficiary was enrolled. This number can then be rolled up into a total count of months. Dividing by the number of unique beneficiaries tells you the average enrollment duration during the time period of interest.
- **Total eligibles**. This number would represent a snapshot in time because the eligible population typically changes monthly.

A more detailed discussion of the issues involved in defining appropriate denominators is contained in Appendix V.

Exhibit X-1 contains examples of measures that could be included in a key indicator report.

EXHIBIT X-1
Key Indicators Report
Measure Inventory
(all measures are created for a specified time period)

CATEGORY	MEASURE
Program Expenditures (measures can be calculated as Overall Total, by Service Delivery Model (e.g., PCCM vs. capitated), by Individual MCO, by Beneficiary Category. Graphics should also show targets for growth and expenditures.)	Total expenditures/beneficiary
	Total expenditures/eligible
	Quarterly expenditure trend, including growth target for current year
	Expenditures by service category
	Net claim payment (for PCCM & partially capitated) by Major Diagnostic Category
	Total expenditures broken out by service delivery model (pie chart)
Program and MCO Enrollment (measures should be created as program totals, broken out by MCO, and broken out by eligibility category)	New enrollment growth - month to month trend
	Disenrollment pattern - month to month trend
	% change in program enrollment
	% change in disenrollment
	Top ten reasons for disenrollment
	Average length of enrollment by MCO
Beneficiary Access to Care (should use graphs and/or maps to illustrate)	Ratio of enrollees to PCPs by MCO - show target ratio on graph
	Ratio of enrollees to specialists by MCO - show target ratio on graph
	% of enrollees who had at least one PCP visit during the year - by MCO
	Average # of visits/enrollee; broken out by enrollee age cohort – by MCO
Service Utilization (can be broken out by service delivery model, by MCO, by eligibility category, by patient age cohort)	# laboratory procedures/1,000 beneficiaries
	# radiology procedures/1,000 beneficiaries
	# office visits/100 beneficiaries
	# hospital admissions/1,000 beneficiaries
	# patient days/1,000 beneficiaries
	# ER visits/1,000 beneficiaries

EXHIBIT X-1 (Continued)
Key Indicators Report
Measure Inventory
(all measures are created for a specified time period)

CATEGORY	MEASURE
Quality of Care	EPSDT services Overall EPSDT Screen - Sexually transmitted diseases Immunizations - Hearing Well child visits - Vision Unclothed physical exam - Family planning Health and development history Lab tests Health Education Substance abuse Dental Asthma
	Adult preventive Mammography Cervical cancer screening Dental Family planning
	Acute/chronic care AIDS treatment TB treatment Diabetic hemoglobin A1C Diabetic retinal exam Asthma ER visit rate
	Mental health/substance abuse Follow-up after admission for major affective disorder Referrals from PCPs to MH/SA vendor Duration of treatment for substance abuse treatment
	Women's health C-section rate, hysterectomy rate Gestational age at first prenatal visit Sexually transmitted diseases
	Pediatric health Lead poisoning Substance abuse Well child visits Immunizations Low birthweight
Enrollee Satisfaction*	Overall satisfaction with MCO
(annual, e.g. CAHPS)	Satisfaction with PCP (pick a subset of measures)

* These measures are not derived from encounter data. Enrollment measures are derived from enrollment data, and satisfaction measures are derived from patient survey data. We include them here because they are integral elements of the managed care program.

3. Utilization

Most States and Fiscal Agents have years of experience with analyzing trends in service utilization. However, utilization analyses under managed care may have a different focus than those that are conducted under traditional fee-for-service care. In particular, capitation creates incentives that are more likely to lead to *underutilization* than to overutilization. As a result, some measures should be designed to identify potential underutilization -- these can also qualify as Fraud and Abuse reports. Utilization measures may include:

- Hospital/Other facility discharges per 1,000 Medicaid enrollees
- Inpatient days per 1,000 Medicaid enrollees
- Inpatient length of stay for Medicaid enrollees
- Ambulatory physician encounters per Medicaid enrollee
- Percent of children **expected to have** at least one well child visit who **did have** one or more well child visits (denominator = total # of children in a particular age cohort, numerator = # who had well child visits).
- Percent of well child visits rendered (denominator = total # of expected visits for a particular pediatric cohort, numerator = # of actual visits for the same cohort).
- Prescription drug fills for high-use drugs (e.g., antibiotics, allergy medications, oral contraceptives, selective serotonin reuptake inhibitors (Prozac, Paxil, etc.)).

Exhibit X-2 gives examples of some basic utilization rates.

EXHIBIT X-2
Selected Utilization and Financial Performance Indicators
That Use Encounter Data

Selected Encounter-Based Performance Indicators	**MCO A**	**MCO B**	**MCO C**
Discharges per 1,000 Medicaid Enrollees	90	130	175
Inpatient Days per 1,000 Medicaid Enrollees	350	500	700
Ave. Inpatient Length of Stay for Medicaid Enrollees	4.0	4.5	5.0
Ambulatory Physician Encounters per Medicaid Enrollee per Year	5.0	4.5	4.0
Total Medicaid Expenses per Member per Month	$100.00	$120.00	$140.00

Note that Discharges per 1,000 and Inpatient Days per 1,000 are very different across the organizations. Do these results indicate that MCO A enrollees are not receiving enough inpatient care or that MCO C is providing excessive amounts of inpatient care?

Historical Medicaid data indicates that not only will managed care produce a reduction in discharges per 1,000 and inpatient days per 1,000 as compared to fee for service delivery, but also that Medicaid programs just implementing a transition into managed care will experience decreases in these indicators over a number of years. Therefore, the utilization experience of MCOs A, B, and C may reflect their experience with Medicaid managed care. Similarly, historical data indicates that MCO model, size of MCO, age of MCO, federal qualification, tax status, and MCO ownership are related to the results for these indicators. In this example, assume that MCO A is a large, well-established staff model unit of a national MCO, whereas, MCO C is a start-up IPA model MCO developed and managed by local providers. MCO B is a mid-sized network model MCO owned and operated by the Blue Cross and Blue Shield organization in the state.

This information also may help to explain the difference in ambulatory physician encounter rates. Data show that ambulatory encounters increase under managed care, particularly within the Medicaid population, as hospital inpatient and emergency room department utilization decrease. MCO A represents an MCO that has moved farther along in the shift from inpatient to outpatient services than MCO C which is just beginning to "manage" its enrollees and MCO B again is in the middle of transitioning its Medicaid enrollees from fee-for-service experience to managed care.

4. Quality of Care

Quality of care is perhaps the most difficult element to address with encounter data. The field of quality measurement is a relatively new one, and most of the indicators that have been developed are proxies for quality rather than true quality measures *per se*. For this reason, HCFA has not required the submission of encounter data by MCOs to States in its Quality Improvement System for Managed Care (QISMC) standards and guidelines. Similarly, it has not proposed the use of encounter data as a required element of State quality assessment and improvement strategies mandated by the Balanced Budget Act. When States desire to use encounter data for quality measurement purposes, here are some examples of quality measures that may be relevant to your population. Also, the third part of this Section discusses HEDIS, FACCT, and CONQUEST, compilations of performance measures that include quality of care measures.

- Wellness visits for adult females (e.g., annual physicals or routine gynecology exams)
- Change in emergency room utilization by asthmatic children -- Year 1 compared to Year 2.
- Readmissions as a percentage of all admissions for targeted conditions (e.g., heart disease, diabetes, asthma, infectious disease, mental illness).
- Lead screening for children in areas with a high concentration of older housing.
- Rate of post-procedure hemorrhage or hematoma - inpatient care only.
- Rate of post-operative pneumonia - inpatient care only.

5. Access to Care

Access is a very important concept in managed care for two reasons. First, as discussed above in

the section on utilization, capitation is more likely to lead to underutilization of services than it is to overutilization. Second, the premise behind managed care is that it "manages" the health of its enrollees in an effort to prevent illness where possible, and provide the appropriate level of care when needed. That is impossible to achieve if the patient never sees a provider.

Many utilization measures may serve as access measures, also. If utilization rates are particularly low for a service, the explanation could be limited access to care. For example, earlier we discussed "true negatives" -- eligibles who have not received any services through the managed care organization, as evidenced by the absence of a medical record and any encounter data. If the rate of true negatives increases, according to medical records based encounter validation, the state might initiate a more detailed investigation due to possible barriers to access or poor outreach activities. You also can measure access to care by conducting a medical records-based data validation study as laid out in Section IX.

Other access to care measures include:

- Ratio of PCPs to recipients by county
- Ratio of specialists to recipients by county

There are many other important access to care measures that must be created using data sources other than encounter data, such as:

- Access to translation services within the MCO, by foreign language
- Nearest public transportation, by provider office site
- Provider office hours
- Average wait for scheduled appointment
- Access to on-site child care during office visit
- Average distance between patient residence and provider office

6. Specific Populations and Targeted Studies

Many States want to conduct analyses that focus on the provision of services to children, as well as persons with HIV/AIDS, the disabled, individuals with mental health/substance abuse problems, and persons diagnosed as mentally retarded or developmentally delayed/disabled. Some of the analyses will simply be Access, Quality or Utilization analyses that focus on the Specific Population of interest. That population can be identified through the eligibility data if the eligibility category contains enough detail, or through a combination of the eligibility data and the encounter data if the population must be defined by diagnosis, for example (e.g., all children aged 7-13 who have been diagnosed with asthma).

7. Expenditures

In the past, payment information was an integral part of any analysis of Medicaid program costs. As capitation becomes a popular method of payment to MCOs and provider groups, retrospective

payment analysis loses some of its value. With the exception of services that are reimbursed outside of the capitation rate, States now know *in advance* how much it costs to provide care through managed care arrangements.

So how can you compare capitated payments under managed care to traditional fee-for-service payments, or to PCCM payments? **One method** is to model the managed care population and service package in your historical fee-for-service data. This method does not require access to encounter data, and utilizes methods that many States (or their actuaries) already use when preparing managed care payment rates.

- **Model the managed care population.** The usual criteria for managed care programs include elements such as eligibility category, Medicare status, institutional status, enrollment in waivers, and geographic area. If possible, the modeling can be further refined by simulating the population risk profiles of each MCO.
- **Model the managed care service package.** Items to be considered include carveouts, liability for long-term care services, third party liability, and pharmaceutical discounts.
- **Model the capitation rate.** For the population and the service package that was modeled in the above steps, use the historic fee-for-service payments, adjusted for inflation, to re-create the managed care (per member per month) rate table.

A **second method** involves assigning a dummy payment amount to each service provided in the capitated environment, in effect adding payment amounts to the encounter records. This can be done using the Medicaid fee schedule, or by using other proxies, for example using RBRVS relative value units for each CPT code billed, or the DRG amount for the patient's diagnosis on an inpatient admission.

The result of using either method is to calculate a simulated capitation rate that can be compared to actual expenditures of the managed care program.

8. Fraud and Abuse

By sharing risk with providers, capitation helps to control costs of the MCO and shifts the concern of cost control onto providers. Where providers share the risk of medical costs the incentives for fraud and abuse change. For example, where a provider is paid a fixed capitation payment for the anticipated treatment of a group of patients, the incentive for an unscrupulous provider is to provide the least amount of care possible in an effort to maximize profit from the payment received.

It is likely that States will need some new tools to determine and discourage the potential of under-utilization in capitated environments. A detailed discussion of data quality and analytic issues related to fraud and abuse control is beyond the scope of this guide; the points presented here should be taken as introductory. Some options include:

- **Evaluating actual service utilization against clinical practice guidelines** for a given condition (e.g., low back pain, depression, pediatric asthma). Practice guidelines or parameters have been developed and adopted by medical societies, public agencies, and

private health research and consulting organizations. They are under continual development and refinement. Practice guidelines describe the indications of a patient's condition for treatment, the course of treatment, anticipated outcomes and follow-up. Thus, one can compare a provider's course of treatment against the adopted guideline for a condition or diagnosis. The results of this analysis may not completely answer the question whether an abusive under-provision of service occurred, but the analysis is a beginning to determine whether clinical explanations for the difference in treatment exist that would rule out fraud and abuse as an explanation.

- **"Profiling" providers to identify differences in treatment across providers for the same clinical condition**. "Profiling" refers to the expression of providers' patterns of practice as rates, aggregated over time for a defined population of patients. Profiling can be conducted for physician practices, MCOs, or geographic areas and can cover topics such as patient encounters, number of referrals, patient outcome and satisfaction statistics, etc. Additionally, access measures can serve as a starting point for inquiries into evaluations of under-utilization. These statistical measures in and of themselves will not provide the answers to why services were not provided. They will however, help target further analysis to uncover the source of the problem. Exhibit X-3 details measures that might be contained in a primary care provider profile.

9. Reports For MCOs

To ensure adequate performance among all MCOs serving the Medicaid population, it is important to provide clear feedback, perhaps in the form of so-called "report cards," that demonstrates MCO-specific levels of success across a wide variety of services and Medicaid beneficiary subgroups. Data for these report cards can include administrative information (e.g., encounter records, fee-for-service claims, eligibility data) and/or medical record-based information. Benchmarks against which to measure MCO-specific performance will vary depending on the availability and quality of comparative data and/or standard guidelines for service delivery. States can use these periodic report cards and medical record reviews to identify potential problems in MCO performance and to help MCOs develop strategies for improvement. The success of these strategies can be further assessed with follow-up report cards (e.g., pre- versus post-comparisons of performance) and special analyses, as needed.

EXHIBIT X-3
Possible Elements of A Primary Care Provider (PCP) Profile
(Quarterly or Annual)

Overview
Total number of members Total member months Average number of members Total number of encounters Visits per member per year (PM/PY) Amount paid per member per month (PM/PM) Amount paid per encounter
Referrals
Number of specialist referrals per 1,000 members per year Number of specialist visits per 1,000 members per year Specialist visits: top five categories of specialist visited
Utilization
Total number of ambulatory visits Ambulatory visits PM/PY or PM/PM Number (%) of members with ER visits ER visits per 1,000 members per year ER payments PM/PM Number of hospital admissions Hospital inpatient admissions per 1,000 members per year Hospital days per 1,000 members per year Inpatient costs PM/PM Number of ambulatory surgical encounters Ambulatory surgical encounters per 1,000 members per year Ambulatory surgical costs PM/PM Number of lab services Lab services per 1,000 members per year Lab services costs PM/PM Number of radiology services Radiology services PM/PM Radiology services cost PM/PM Number of home health services Home health services per 1,000 members per year Home health services costs PM/PM Number of durable medical equipment (DME) services DME services per 1,000 members per year

EXHIBIT X-3 (Continued)
Possible Elements of A Primary Care Provider (PCP) Profile
(Quarterly or Annual)

Utilization (continued)

DME costs PM/PM
Number of rehabilitation services
Rehabilitation services per 1,000 members per year
Rehabilitation services costs PM/PM
Number of other services
Other services per 1,000 members per year
Other services costs PM/PM

Number of EPSDT visits
- Age < 1
- Age 1-2
- Age 3-20

EPSDT visits per 1,000 members per year
- Age < 1
- Age 1-2
- Age 3-20

% of children age < 1 with at least one comprehensive EPSDT screen
% of children age 1-2 with at least one comprehensive EPSDT screen
% of children age 12 months fully immunized
% of children age 24 months fully immunized
Number of preventive dental exams (children)
Preventive dental exams (children) per 1,000 members per year

C. USING INDUSTRY-STANDARD MEASURES TO MONITOR PROGRAM PERFORMANCE

1. HEDIS 3.0/1998

HEDIS (Health Plan Employer Data and Information Set) is a set of standardized performance measures designed to ensure that purchasers and consumers have the information they need to reliably compare the performance of managed health care organizations. It is sponsored, supported and maintained by the National Committee for Quality Assurance (NCQA) – a not-for-profit organization committed to evaluating and publicly reporting on the quality of managed care organizations (www.ncqa.org, 1998). HEDIS can be a valuable tool for providing a high-level view of Medicaid managed care program performance -- the "30,000 foot view" we described earlier in this section. The HEDIS measures are organized into the following domains:

- Effectiveness of Care
- Access/Availability of Care
- Satisfaction with the Experience of Care
- Health Plan Stability
- Use of Services
- Cost of Care
- Health Plan Descriptive Information
- Satisfaction with Care

Appendix W lists the HEDIS 1999 reporting set measures by domain. Many of the measures included in the domains can be calculated using the data elements captured in Medicare-Medicaid CDI. There are, however, some challenges to using encounter data to create HEDIS measures accurately.

Below, we provide examples of HEDIS measures that may be difficult to calculate, and discuss why that is the case. We also provide potential solutions in Italics.

- **Ambulatory Care.** The Use of Services section of HEDIS contains an Ambulatory Care table that reports, among other things, number of MCO outpatient visits and number of outpatient visits per 1,000 member months. These visits are defined by many of the CPT Evaluation and Management Services codes. MCOs that capitate PCPs may not capture encounters for 100 percent of the outpatient visits that take place, which would understate the rates presented in these measures. This problem also would affect other measures that rely on evidence of outpatient visits (e.g., measures in the Access/Availability Domain).

  Evaluating the completeness of primary care encounters should be one of the first validation tasks a State performs because incomplete PCP data can affect so many measures. If a State

verifies that this is, in fact, a problem, it should consider using patient registration information as an interim solution while the MCO strengthens its PCP data collection.

- **Low Birthweight**. This measure asks for the calculation of two rates: (1) the percentage of infants whose birthweight is less than 1,500 grams, and (2) the percentage of infants whose birthweight is less than 2,500 grams. There are two aspects of this measure that frequently cannot be supported by claims and encounter data. First, the denominator requires that only live births delivered to Medicaid-enrolled women be counted. This means that the inpatient data must contain accurate coding of the baby's diagnosis or DRG to distinguish between live births and stillborns. Second, the baby's diagnosis also must be coded to the fifth-digit level of specificity because the fifth digit defines birthweight.

  MCOs that cannot support this level of coding specificity can turn to hospital discharge abstracts, patient medical records, or birth certificates to identify live births and low birthweight babies.

- **Prenatal Care in the First Trimester.** This measure quantifies the percentage of enrolled pregnant women (with a live birth) who had their first prenatal care visit 176 days to 280 days prior to delivery. The first challenge with creating this measure is the identification of live births, which is discussed above under Low Birthweight. The second challenge is the need to either count back from the Delivery Date to verify that the first visit took place between 176 and 280 days prior to delivery, or count forward from the Estimated Date of Conception (EDC), a data element that is rarely captured on encounters.

  This situation is further complicated by the fact that deliveries are commonly reimbursed at a global, all-inclusive rate. In other words, the Ob/Gyn receives a flat fee for providing all prenatal visits, performing the delivery, and performing the first well-baby visit in the hospital. In this situation, the provider may submit one claim for all services--triggered by the delivery--and it may not contain detailed information on the patient's prenatal visits.

  One potential solution is to craft a separate claim or encounter form for deliveries. This form would include prompts for the dates of every prenatal visit, and would require entry of both the delivery and LMP dates. Similarly, some states such as California alter the use of certain fields on the HCFA 1500 to ensure that MCOs capture the LMP date.

States may choose to allow MCOs to compile and calculate their own HEDIS measures, or States may choose to calculate the measures from data submitted by the MCOs. The benefit of the latter method is that calculation and definitional methodology is more likely to be uniformly and consistently applied when one entity is completing the analysis than when multiple entities define and calculate their own measures. Nevertheless, it may be considered most beneficial for MCOs to aggregate and calculate their own HEDIS measures, as long as they are following consistent and valid aggregation, definitional and calculation methods. Many states are now requiring that MCOs submit audited rates, which aids in obtaining standardization.

2. Foundation for Accountability (FACCT)

The Foundation for Accountability (FACCT), a group of approximately 30 private employers, consumer groups, government agencies, and community-based coalitions, was created to evaluate, endorse, and promote a common set of patient-oriented measures of health care quality. More detailed information can be found at www.facct.org.

The FACCT framework organizes data from measures that already exist. It also identifies critical information gaps. To develop measures, FACCT conducts focus groups and other research to understand the aspects of quality that are important to consumers. FACCT combines these patient expectations with available clinical knowledge and scientific research to create measures that hold the health system accountable for high-quality care. FACCT's initial list of performance measures target the following conditions:

- Major depressive disorder
- Adult asthma
- Diabetes
- Health status
- Health risks
- Consumer satisfaction

The Foundation's strategy includes consumer access to success rates of various treatments for each condition. FACCT's focus on member health status, clinical outcomes and physician technical and interpersonal skills does not lend itself to the use of administrative data sources such as encounter data. Rather, FACCT's work will rely most heavily on **enrollee and patient surveys**.

For example, the breast cancer module includes measures grouped into several categories:

Steps to Good Care

- Mammography: proportion of women age 52-69 who have had a mammogram within a two-year period.
- Early stage detection: proportion of patients whose breast cancer was detected at Stage 0 or Stage I
- Informed about radiation treatments: proportion of Stage I and Stage II patients who indicate that they had adequate information about their radiation treatment options before deciding about treatment
- Breast conserving surgery: proportion of Stage I and Stage II patients who undergo breast conserving surgery
- Radiation therapy following breast conserving surgery: proportion of breast conserving surgery patients who receive radiation treatment after breast conserving surgery

Experience and Satisfaction

- Patient satisfaction with care: mean score for patients' level of satisfaction with breast cancer care

Results

- Experience of disease: mean score for patients on CARES-SF survey which assesses patients' quality of life and experience in living with breast cancer
- Five year disease-free survival: probability of disease-free survival for a group of patients, Stages I-IV, who were diagnosed during prior five years

3. CONQUEST

The federal Agency for Health Care Policy and Research (AHCPR) sponsored the creation of a prototype system designed to collect, retrieve and evaluate clinical performance measures. This system, which is available to the public in hardcopy, electronically and through the Internet, is called CONQUEST - the COmputerized Needs-oriented QUality Evaluation SysTem.

The current version of CONQUEST (2.0) includes two databases, a measures database and a clinical condition database. These databases, which were created using Microsoft's Access product, can be linked by codes that define specific clinical services and health outcomes. CONQUEST currently contains about 1,200 clinical performance measures (including the HEDIS 2.0 quality measures), 53 clinical measure sets, and 52 clinical conditions. CONQUEST meets potential user needs by providing a common language for performance measurement. In addition, CONQUEST helps user to:

- Identify measures belonging to measure sets of interest;
- Identify measures related to conditions of interest;
- Identify characteristics of individual measures;
- Compare similar measures on key components or characteristics of interest and importance;
- Identify data requirements for measures;
- Determine which measures are best-suited for a particular user's purpose;
- Find measures for clinical conditions and populations of interest; and
- Identify measures that may be suitable for adaptation or modification to meet the user's unique needs.

While many of the measures included in CONQUEST can be created using encounter data, many of the more clinically complex measures require access to medical record information, also. Appendix X contains an overview of the CONQUEST database.

XI. LONG TERM CARE ENCOUNTER DATA REPORTING IN MEDICAID MANAGED LONG TERM CARE PROGRAMS

A. BACKGROUND

Although most states now use managed-care purchasing strategies for providing acute health care benefits for Medicaid beneficiaries, only a few states use managed care models for purchasing Medicaid-financed long term care benefits. By and large, most state Medicaid agencies continue to purchase both institutional and community-based long-term care services directly from providers on a fee-for-service basis.

However, a growing number of states are interested in applying managed care purchasing strategies to long term care benefits. Although the program development process for the design and implementation of "managed long term care" programs is considerably longer than for managed acute care, it is entirely possible that the number of states with operational programs which capitate Medicaid-financed long term care services will increase significantly over the next five to ten years.[5] The rationale for states pursuing managed care purchasing strategies for long term care services is the same as their rationale for doing so in the acute care market—a belief that they can obtain higher value (better quality at equal or less cost) through the application of managed care principles.[6]

As for acute care, managed care models for long term care will change data flows in the submission of claims for long term care payments and in the reporting of long term care encounters. Instead of billing states directly, long-term care providers will bill health organizations or other risk-bearing entities that have received contracts to manage long-term care services. In turn, health organizations will submit data to the states in compliance with whatever data reporting requirements are included in their contracts with state Medicaid agencies.

Concurrently, the Health Care Financing Administration (HCFA) is implementing provisions of the Balanced Budget Act (BBA) of 1997, which require 100% reporting of both fee-for-service and managed care encounters for all Medicaid-covered benefits. More specifically, as of January 1, 1999, all states will be required to participate in the Medicaid Statistical Information System

[5] There are a variety of reasons why program development for Medicaid managed long term care programs takes a longer time, including: (1) building political consensus for managed long term care models is more problematic; (2) since most persons in managed long term care programs are "dual eligibles" (eligible for both Medicare and Medicaid benefits) these programs generally require special waivers from HCFA; and (3) since there is no "commercial" market for managed long term care, states must nurture the development of new organizational entities which are capable of providing integrated acute and long term care benefits on a risk basis.

[6] State Medicaid agencies spent approximately $56.1 billion for long term care services in FY 1997, approximately 35% of total Medicaid agency expenditures.

(MSIS).[7] Thus, regardless of previous data reporting requirements between states and their managed care contractors, the Federal government now requires states to collect 100% fee-for-service and encounter data from all sources,[8] and transmit these data to the HCFA under MSIS.

The purpose of this section is to present information to HCFA and the states on special issues related to the submission of long term care encounters under programs which capitate Medicaid-financed long term care services. The section addresses the following key issues:

- Are there any fundamental characteristics of long term care services or of long term care providers which make the reporting of long term care encounters under managed care contracts qualitatively different from the reporting of acute care encounters?
- What has been the experience of states that have implemented managed long term care programs in collecting long-term care encounters from their contractors?
- How are managed long term care organizations (and states) using information generated from encounter data to manage their long term care populations?
- Given the experience of states in collecting long term care encounter data, what issues arise in state compliance with MSIS data reporting requirements for long term care services?
- What technical assistance might HCFA provide to other states as they implement managed long term care models to improve the quality and completeness of long-term care encounter data reporting?

1. Methodology

The research for this section was conducted primarily through phone interviews with key informants in three states: Arizona, Minnesota and Texas. These three states are the only states that have implemented substantial managed long-term care programs at the state level.[9] Interviews were conducted with individuals in these states at both the state level and the MCO level who have the responsibility for collecting, processing, and reporting long term care encounters. File layouts for the reporting of long term care encounters were obtained from these states, as well as encounter data reporting manuals. Copies of draft MSIS FY99 data reporting requirements for long term care encounters were also made available to these informants, so that they could comment on their states' ability to comply with MSIS requirements.

Brief descriptions of the managed long term care programs in these three states follow:

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[7] Prior to the enactment of BBA, participation by states in MSIS was voluntary.

[8] In accordance with the Balanced Budget Act of 1997, all claims processed on or after January 1, 1999 must be submitted electronically in the MSIS format. "Claims" in this context include encounter data, to the extent that they are routinely received by the State.

[9] In addition, the Social Health Maintenance Organization (SHMO) demonstration and the Program All-Inclusive Care for the Elderly (PACE) demonstration are site-specific demonstration programs that capitate long-term care services. But because these programs have special data reporting requirements for evaluation research purposes, they were not included in this review. Wisconsin and New York also operate small demonstration programs that capitate long term care services.

The Arizona Long Term Care System (ALTCS) has been operational since January 1, 1989, and is still the only statewide managed long term care program in operation. The ALTCS program capitates both acute and long term care services delivered to eligible Medicaid beneficiaries at risk of institutionalization. There are two major components of ALTCS: (1) a managed care program for the elderly and physically disabled (EPD); and (2) a managed care program for persons with developmental disabilities (DD). Under the EDP component, the state contracts with a single "program contractor" in each of Arizona's 15 counties. Program contractors can be either public or private entities, and in the state's two large urban counties—Maricopa (Phoenix) and Pima (Tucson)—the program contractors are public authorities. Under the DD program, the program contractor is another state agency—the Division of Economic Security. Together, over 21,000 individuals are enrolled and receive services under the ALTCS program.

The Texas Star+Plus Program is a Medicaid managed care program which serves all SSI and SSI-related Medicaid enrollees over the age of 21 in Harris County (Houston), Texas. The Star+Plus program operates under a combined 1915(b) and 1915(c) waiver, which was approved by HCFA on January 30, 1998. Although only in operation for less than a year, the program had already enrolled 46,000 persons into one of three managed care organizations by July 1, 1998.[10] The program provides Medicaid-covered benefits to both SSI recipients who need long term care supports as well as those who are not in need of long term care services. Although enrollment in Texas Star+Plus is mandatory for most program eligibles, enrollees have a choice of three health organizations to enroll in, and are allowed to switch organizations at any time and for any reason.

The Minnesota Senior Health Options (MSHO) Program began in January 1997. Unlike ALTCS and the Texas Star+Plus Program, MSHO is a managed care program which capitates *both* Medicare and Medicaid benefits for program enrollees. And unlike ALTCS and Texas Star+Plus, enrollment in MSHO is totally voluntary. As of August 1998, approximately 2,500 persons had enrolled in the program in four metropolitan counties surrounding Minneapolis/St. Paul. There are currently three health organizations participating in the program, each of which is subcontracting with integrated chronic care delivery systems for the provision of direct services to beneficiaries.

B. FINDINGS

In general, respondents indicated that there were no "special" issues in the reporting of long term care encounters. State procedures for the reporting of long-term care encounters in these programs were integrated into larger encounter data reporting processes for all Medicaid managed care programs. However, in the Texas Star+Plus Program, dual management of the program by two separate divisions within the Department of Human Services has created certain problems in the reporting of long-term care encounters.

Although all three programs had fully implemented procedures for the reporting of long term care encounters in their capitated programs, only the ALTCS program had been collecting data

[10] There is also a small PCCM plan for certain individuals who are exempted from enrolling in a fully capitated plan.

for a sufficient period of time to assess the quality and completeness of submitted encounters. While Texas and Minnesota were receiving and processing long term care encounters from their capitated programs, neither state had yet begun to conduct formal data validation and quality checking of encounter data submissions. Nor were they using the data as yet to monitor the performance of their managed long-term care contractors.

The primary issue specific to the reporting of long-term care encounters concerned the use of service codes for home and community-based services. Since home and community-based waiver services do not fit into service codes developed under national coding systems, all three states have developed their own local codes for the reporting of home and community-based service encounters. However, there was significant variation in the types of codes developed by each state. State-specific home and community-based service codes for Arizona, Texas and Minnesota are included as Appendices Y, Z and AA to this guide.

In addition, since one of the policy goals of managed care purchasing models is to allow increased flexibility in regard to the types of services that are used to support individuals with long term care needs, another issue concerns the creation of *new* service codes when a managed care contractor wishes to provide a new type of home and community-based service. Both Texas and Arizona had procedures by which managed care contractors could request that new service codes be added to the list of local service codes used to categorize long term care encounters, while Minnesota did not. MSHO contractors were expected to report all long-term care encounters under one of the codes listed in Appendix AA.

There was differentiation across the three states in the reporting of case management services. In Texas and Arizona, managed care contractors do not submit patient-level encounter data on case management services to the state. Rather, case management is reported to the states as an administrative cost on cost reports. In Minnesota, as shown in Appendix AA, contractors are required to report the provision of case management services like any other home and community-based service, on a person-specific basis, in 15-minute increments.

The Arizona ALTCS program clearly has the most extensive and advanced process for editing/validating encounter records submitted by contractors to the state. First, the Office of Managed Care makes virtually no distinction between a fee-for-service claim and an encounter record.[11] "A claim is a claim is a claim," said one respondent. The state requires the use of a UB-92 file format for the reporting of nursing home stays, and the use of a HCFA 1500 file format for the reporting of home and community-based services. Contractors are required to submit encounter data within 240 days from the end of the month of service, or the date of enrollment in the organization, whichever is later.[12]

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[11] Although virtually all of long term care in Arizona is provided under managed care contracts, there is still a small fee-for-service component of ALTCS which provides services to individuals between the time they are determined eligible for coverage and the time they are enrolled in a managed care organization.

[12] The 240-day reporting lag is necessary to allow for sufficient time for Medicare and all other third party payments to be resolved and included on the encounter record prior to submission to the state.

ALTCS has developed a detailed encounter record editing structure for processing submitted encounter records. Records that do not pass the edit logic are pended and returned to the contractor. The contractor must resolve each pended encounter within 100 days of processing or be subject to sanctions. Contractors can take one of four actions on pended encounters:

1. It may **correct** a pended encounter by changing one or more data fields on the record.
2. It may **approve** an encounter that was pended because it was an exact or near duplicate of a previously accepted encounter.
3. It may **delete** a pended encounter.
4. It may make **no change** to the data field content.

The ALTCS Office of Managed Care meets periodically with all program contractors to discuss the encounter data editing logic that is used to validate encounter records, and program contractors have the opportunity to provide input into the state editing process. Close communication between program contractors and ALTCS staff permit the program contractors to mimic the state's editing logic in their own internal processing of claims/encounters and minimize the number of encounter records that are pended by the state.

In Minnesota, managed care contractors are required to meet a "90%" threshold for passing program edits. Thus, if the percentage of encounter records that do not pass edit checks exceeds 10%, the entire tape is returned to the contractor for resubmission. Beginning January 1, 1999, the state will begin implementing a system of returning "denied" encounters (in the case of submissions that pass the 90% threshold) back to contractors, who will then have the opportunity to resubmit denied encounters, although they will not be required to do so. Unlike ALTCS, the MSHO has no system for "pending" encounter records; they are either accepted or denied. As the newest of the three programs, Texas Star+Plus is just beginning to implement its encounter data editing system with the organizations.

Since the Minnesota Senior Health Options (MSHO) program is an integrated Medicare/ Medicaid demonstration program, MSHO managed care contractors submit encounter records for both *Medicare-covered* and *Medicaid-covered* benefits for their enrolled populations. Since ALTCS and Texas Star+Plus only capitate Medicaid-covered benefits, only encounters for services which are either covered entirely by Medicaid, or for which Medicaid is responsible for a Medicare copayment or deductible amount are reported to the state. Thus, Minnesota is the only state that will have complete encounter data on utilization of both Medicare- and Medicaid-covered services by dually eligible enrollees in managed long-term care programs.

Contractors participating in the Texas Star+Plus program reported data submission problems related to the fact that the encounter data are submitted to two separate divisions within the Department. The Texas Department of Human Services receives long term care encounters, while the Texas Department of Health, which administers the Medicaid acute care program, receives acute care encounters. Since, in some cases, providers provide *both* acute and long term care services to Texas Star+Plus enrollees, contractors must transform encounters which contain both acute and long term care line items into two separate records before submitting them to the state.

Despite the fact that these programs capitate long term care services to their managed care contractors, contractors are still required to provide payment or financial data on long term care encounters to the state. In the ALTCS program, contractors are required to report actual payments made to providers or fee-for-service equivalents on any services that are sub-capitated.[13] Payment fields are not completed only in the case of services that are provided *directly* by ALTCS program contractors. In the case of one program contractor interviewed for this project, this applied to the provision of some behavioral health services to ALTCS enrollees. All other services (excluding case management) were delivered under contract. Texas Star+Plus contractors must also complete payment fields. In the MSHO program, managed care contractors are required to report *charges*, not payments.

As previously discussed, Texas and Minnesota have not yet used long term care encounter data to evaluate their managed long term care programs, or to assess the performance of their contractors, although they intend to do so in the future. ALTCS uses encounter data to:

1. Pay reinsurance benefits
2. Set fee-for-service and capitation rates
3. Determine disproportionate share payments to hospitals
4. Evaluate quality of care through quality indicators developed with encounter data

The ALTCS program has selected the following quality indicators for the Elderly and Physically Disabled Program:

1. Influenza immunization
2. Sacral/Coccygeal Pressure Ulcers
3. Diagnoses Supporting Psychotropic Agents
4. Activities of Daily Living
5. Fractures Related to Falls
6. Hospital and Emergency Room Utilization

In 1997, ALTCS generated information on all of these quality indicators with the exception of the use of psychotropic agents. Encounter data were used in the development of the Influenza immunization indicator and the indicator on Hospital and Emergency Room Utilization. More information about the application of these quality indicators in the ALTCS program is provided in Appendix L.

C. IMPLICATIONS FOR MSIS

Another objective of this effort was to assess the ability of states which have implemented managed long term care programs to comply with the Medicaid Statistical Information System (MSIS) data reporting requirements, which begin January 1, 1999. Appendix C presents FY99

[13] ALTCS program contractors indicated that long term care services are rarely, if ever, subcapitated. Subcapitation is more frequent in the case of acute care services, such as physician services.

file layouts[14] for the reporting of nursing home and home and community-based service encounters in MSIS. Nursing home stays are reported in the Long Term Care Claims File (Appendix C-CLAIMLT). Home and community-based services are reported in the Other Claims File (Appendix C-CLAIMOT) which generally covers all Medicaid outpatient services. One specific issue is whether states will be able to provide information on all of the required data fields for nursing home and home and community based services encounters.

Of the three states included in this analysis, Arizona will have the least difficulty in meeting MSIS data reporting requirements for long term care encounters. Both the ALTCS and MSIS claim/encounter record layouts are based on the UB92 and the HCFA 1500, and the ALTCS encounter tape record layouts actually capture far more data elements than are required by MSIS.

Since the MSHO program is an integrated Medicare/Medicaid demonstration program, managed care contractors in MSHO do not distinguish between Medicare and Medicaid as sources of payment in reporting long term care encounters. Thus, if MSHO data are included in MSIS, utilization and expenditure data on long term care encounters will overestimate Medicaid-covered utilization and expenditures, since the data will not break out Medicare-covered benefits separately. On the other hand, exclusion of MSHO data from Minnesota's MSIS data will result in underreporting of Medicaid-covered long term care utilization and expenditures on a statewide basis, since the MSHO population currently represents about five percent of the total Medicaid-covered long term care population in Minnesota.[15]

It is not clear whether Texas will be able to provide all of the required MSIS data elements for long-term care encounters in the Texas Star+Plus program. For example, Appendix BB is the file layout for the reporting of nursing home stays in the Texas Star+Plus program. The layout excludes a number of required MSIS data elements, such as admission date, other third party payments, patient status, diagnosis codes, leave days, and patient liability amount. (Revenue codes do distinguish Medicare coinsurance payments from other Medicaid payments). Although respondents in Texas indicated that these data elements could be extracted from other administrative data sources (e.g. diagnosis data could be extracted from MDS data and/or level of care screening data; patient liability amounts could be extracted from Medicaid eligibility files, etc.) this dependency upon multiple administrative data sources to comply with MSIS data reporting requirements for long term care encounters will no doubt be problematic.

Above and beyond the issue of state compliance with MSIS data reporting requirements for long term care encounters is a broader issue related to the potential of the MSIS database for conducting analyses of Medicaid-financed long term care services in general, regardless of whether they are provided in a fee-for-service environment or a managed care environment. The major issue here has to do with capturing detailed service coding for home and community-based services. Currently, there is no separate value for home and community-based waiver services under the Type of Service field on the Other Claim file layout. Thus, home and community-based waiver services will most likely be given an "other service" value code in the Type of

[14] MSIS file layouts were current as of this writing.

[15] HCFA has contracted with the University of Minnesota to conduct an independent evaluation of the MSHO. Data from the independent evaluation could potentially be used to adjust Minnesota MSIS long term care data.

Service field, despite the fact that states spent $8.1 billion on home and community-based waiver services in FY 1997.[16]

The "Service Code" field on the MSIS Other Claim file layout does offer states the opportunity to provide local service codes for home and community-based waiver services in their MSIS data submissions. However, use of the Service Code field to conduct analyses of home and community-based services will require analysts to obtain local service codes (like Appendices Y through AA) from HCFA or directly from states, and to conduct their own mapping of local service codes into uniform home and community-based service categories for cross-state comparisons.

Another potential method for analysts to identify home and community-based waiver services on the MSIS Other Claim files is to look at the "Program Type" field. Program type values include 1915(c) home and community-based waiver programs (Program Type 7) and 1915(d) home and community-based services provided as a state plan option (otherwise know as the Frail Elderly program). Since some home and community-based waiver services are similar to regular state plan services (e.g. transportation, home health) but differ in amount, duration, or scope from state plan services, the Program Type field will offer analysts the opportunity to break "Type of Service" codes for some services into services provided under the regular state plan versus those provided under the 1915(c) or 1915(d) authorities.

In sum, home and community-based waiver services do not have a separate Type of Service value in the MSIS claims files reporting system. The identification of home and community-based waiver services in the MSIS database will: (a) require analysts to use either the Service Code field and/or the Program Type field to identify home and community-based services; (b) require analysts to obtain local service codes directly from states or HCFA, external to the database; and (c) be dependent upon states completing the Program Type and/or Service Code fields correctly.

Another issue related to the use of MSIS data for conducting analyses of long term care utilization and expenditures concerns the enrollment of dually eligible Medicaid recipients in Medicare HMOs or other types of Medicare risk plans. The vast majority of Medicaid recipients who receive Medicaid-financed long-term care services are dually eligible for Medicaid *and* Medicare. Although the enrollment of dual eligibles in Medicare risk plans is low (since there is little or no financial incentive for dual eligibles to do so), overall enrollment in Medicare risk plans continues to grow, and is particularly high in certain states (Arizona and California).

The enrollment of dually eligible Medicaid recipients in Medicare risk plans can have diverse effects on Medicaid utilization and expenditures. On the one hand, Medicare risk plans have financial incentives to shift costs to the Medicaid program for dual eligibles (for example, by limiting hospital admissions for dually eligible enrollees in nursing homes). On the other hand, since many Medicare risk plans waive Medicare coinsurance and deductible requirements for their members (which, in the case of dual eligibles, are paid by Medicaid) dually eligible long-

[16] Burwell, Brian: Memorandum: Medicaid *Long Term Care Expenditures in FY 1997*. The MEDSTAT Group, April 1998.

term care recipients may have *reduced* Medicaid costs associated with enrollment in a Medicare risk plan.

Although it would be useful to be able to examine these inter-program effects with MSIS data in greater depth, MSIS eligibility files do not capture whether a dually eligible Medicaid recipient is enrolled in a Medicare risk plan or not. This is largely attributable to the belief that most state Medicaid agencies have no way of knowing whether dually eligible recipients have elected to enroll in a Medicare risk plan or not.

D. CONCLUSIONS

The ATLCS program, which has financed Medicaid-covered long term care services under a managed care model since 1989, and now has almost 10 years of experience in with long term care encounter data, is clearly the "leader" among states in both the collection of long term care encounter data from managed care contractors and in using the data to monitor utilization, cost and quality in the program. Although managed care models are also beginning to be applied to the financing and delivery of long term care services in other states, no state other than Arizona has a fully developed system. Other states which are implementing managed care models for long term care would do well to draw from the wealth of experience which the ALTCS program has already accumulated.

However, although ALTCS is clearly a leader in the systematic collection of complete and accurate long term care encounter data in a managed care environment, its use of the data for program management and quality monitoring purposes is still at a relatively early stage of development. ALTCS uses encounter data for developing a few indicators of quality, and still relies on other sources of data (medical records, functional assessment data) for most indicators. Clearly, there is the potential for ALTCS to develop more sophisticated uses of its encounter data system over time. For example, Arizona is currently in the process of procuring a Decision Support System (DSS) which will provide ALTCS administrative staff with increased access to the data and more advanced analytical tools to use the data for program management and quality monitoring purposes.[17]

There is little reason to believe that the collection of complete and accurate long term care encounter data in a managed care environment is inherently more problematic than the collection of complete and accurate data on long term care service provision in a fee-for-service environment, as long as the state takes a leadership role in providing its managed care contractors with clear and unequivocal specifications for encounter data submission.[18] However, given the

[17] Note that individual program contractors in ALTCS may be using their own encounter data for management and quality monitoring purposes in sophisticated ways, but the focus of this project was on state-level encounter data systems and their implications for MSIS.

[18] Another attribute of the ALTCS encounter data reporting system that was applauded by its managed care contractors was the use of uniform provider identification numbers for all long term care providers. This avoided the problems that would arise if managed care contractors assigned their own provider identification numbers to providers that may have contractual relationships with multiple contractors.

flexibility which managed care models give contractors to develop new service types, there must be a process for adding new service codes to the system as new service types are developed.

In the managed long term care programs included in this effort, the vast majority of long term care services were still provided and paid on a fee-for-service basis, which clearly made the submission of data on individual long term care encounters less problematic. The principal exception to this was the provision of case management services, which in Texas and Arizona, were provided directly by the managed care contractor and were not reimbursed on a fee-for-service basis. However, it is entirely possible that new types of risk-bearing entities for long term care services may emerge in the future, such as provider-sponsored networks, that would not use fee-for-service claims as the method for paying direct service providers. The submission of "unbundled" long-term care encounter data in these types of managed care models may be more problematic.

States' use of encounter data in managed long term care programs for program monitoring and quality of care assessment will always be limited by the fact that states are only seeing a piece of the total health care utilization and cost experience of their enrollees, since the vast majority of enrollees are dual eligibles who receive additional Medicare-covered services not captured in Medicaid encounter data systems. Thus, while encounter data from the MSHO program cannot provide an "apples to apples" comparison with Medicaid-only managed long term care programs, MSHO data will be valuable in and of itself in describing total utilization and expenditure patterns across both Medicaid and Medicare-covered benefits for dually eligible long-term care recipients in a managed care framework.

Irrespective of the ability of states with managed long term care programs to comply with MSIS data reporting requirements is a larger issue regarding the capture of home and community-based service encounters across both fee-for-service and managed care programs under MSIS. Home and community-based service claims/encounters, which accounted for over $8 billion in Medicaid expenditures in FY 1997, are not captured in sufficient detail on MSIS to meet analytical objectives. Possible modifications to the MSIS database structure which will enhance the analytical potential of MSIS for examining home and community-based service use and costs include: (a) adding one or more distinct Type of Service codes for home and community-based services; (b) modifying the Program Type codes to allow for differentiation of distinct home and community-based waiver target groups (e.g. elderly and disabled, developmentally disabled, HIV/AIDS, etc.); and (c) providing explicit directions to states regarding the reporting of home and community-based services in the MSIS database.

E. RECOMMENDATIONS

On the basis of the findings reported here, we offer the following recommendations:

1. The terms and conditions of waivers to states for programs which capitate Medicaid-financed long-term care benefits should include specific requirements that such programs must still comply with MSIS encounter data reporting requirements. However, we recommend that

MSIS reporting requirements be waived in the case of waiver programs which capitate both Medicare and Medicaid benefits, such as the Minnesota MSHO program. The scale of such programs is likely to remain small in the foreseeable future, and the burden on states, managed care organizations, and providers to disaggregate Medicaid and Medicare benefits in reporting encounters in these programs seems unreasonable.

2. States would benefit from HCFA-sponsored technical assistance workshops for states which currently capitate Medicaid-financed long-term care benefits, or which are in the process of developing managed long-term care programs. Such workshops could be similar to the recently concluded consortia workshops. National long-term care experts and state experts could present and moderate sessions. Workshop topics could highlight the encounter data reporting and management information system utilized by the Arizona Long Term Care System (ALTCS). Arizona's ten years of experience in capturing and using encounter data in a managed long term care environment is a valuable reservoir of knowledge that should be shared with other states. The agenda for the workshop should also include a focus on the development and use of quality indicators for monitoring the performance of managed care organizations that provide capitated long-term care benefits.

3. To facilitate the accurate implementation of FY 1999 MSIS instructions, state staff or their contractors responsible for MSIS software development should work closely with state long-term care program specialists to insure the proper interpretation of MSIS instructions that pertain to the 1915(c) home and community-based waiver service population. When uncertainties arise, state staff should take advantage of the MSIS hotline and e-mail services established by HFCA to provide the technical assistance necessary to resolve such uncertainties. (The MSIS hotline telephone number is (410) 786-1600; the MSIS e-mail address is MSIS@HCFA.gov. Additional references for MSIS technical assistance appear in the MSIS Tape Specifications and Data Dictionary, Release 2, Version 1.0, May 1998.)

4. As part of its MSIS technical assistance effort with states, HCFA should issue a special communication to the states with explicit and detailed instructions for the reporting of 1915(c) home and community-based waiver services by states under the FY 1999 MSIS implementation.

5. Finally, as part of the MSIS continuous quality improvement process, HCFA should consider modifying the MSIS database structure by adding one or more Type of Service codes for home and community-based waiver services and by modifying the Program Type codes to allow for greater differentiation of waiver target groups.

XII. CONCLUSIONS

The use of encounter data is one of the key elements in the successful implementation of managed care by Medicaid agencies. To date, few States have seen this process through from beginning to end, and much of the early attention of key players has been concentrated on the quality and completeness of the information that will be available. In this encounter data guide, we have described the key issues in an encounter data collection and use strategy: design, collection, validation, and use.

A. THE PURCHASER'S RESPONSIBILITY

Integral to the issues associated with encounter data are those associated with the overall assessment of the managed care strategy and the MCOs implementing that strategy. The methodology for the assessment process is also in its infancy; many questions remain unanswered. These questions range from the determination of who is responsible for program monitoring, to what measures should be created to assist in program monitoring and evaluation. Some parties believe that much of the monitoring responsibility for managed care should be shifted to the MCOs, that this shift is central to the concept of risk-based contracting. Furthermore, they state, aggregate measures, such as HEDIS, may provide sufficient oversight for MCOs.

Others argue that Medicaid must continue to monitor the delivery of services within the MCOs to ensure that the organizations are both meeting the needs of Medicaid recipients and not over-spending public funds. While it is not the purpose of this guide to argue the issues associated with the monitoring, management, and evaluation of Medicaid managed care, these issues directly affect the encounter data collection process for the following reason: if encounter data cannot provide the best information necessary for monitoring and evaluating managed care then the effort should not be undertaken.

B. OBJECTIONS TO ENCOUNTER DATA COLLECTION

Opponents of encounter data collection typically make the following points:

1. The Collection Of Encounter Data Is Expensive And Burdensome To MCOs And Providers

Many MCOs have data processing systems that, even when detailed information has been submitted by providers, do not retain the level of detail required by the State Medicaid Agency, or cannot output the data in a format acceptable to the State. Data systems modifications or replacements are almost always expensive undertakings.

2. States Cannot Accurately Measure Differences In The Quality Of Care Provided By MCOs Using Encounter Data

The use of claims/encounter information for decision making developed when analysts recognized that these data could be used to support a wide range of studies. These data offer a rich set of information, but they are a by-product of another process, claims payment, and are not suited for more complex analysis. For instance, one can use encounter data to discover whether a cholesterol-screening test was performed, but one cannot determine the test results, nor can one tell whether, given the test results, the provider followed up appropriately with the patient. If the information that can be drawn from encounter data cannot answer the questions and address the issues of concern to Medicaid agencies, it seems pointless to require the collection and use of encounter data.

3. Encounter Data Are Not Timely

Many Medicaid agencies have allowed very long time windows for submission of encounters -- often as long as a year. Even if the encounter data are of a high quality, they are of limited use for program monitoring or evaluation if they are old. In addition, the initial process of receiving accurate and complete encounter data can often lag 12 to 18 months after the program begins. This is a critical time for most Medicaid agencies, and it is often the time when the State has the least information on which to base decisions.

4. MCOs Are Not Fed Back Information From State Encounter Systems

MCOs would like to have information for quality improvement purposes that would assist them to understand and make adjustments to the practice behavior of their providers, particularly in relation to the utilization and outcome trends of enrolled beneficiaries. Few states currently provide this type of information to managed care organizations.

5. The Same Quality Of Information Can Be Collected From Aggregated Data And HEDIS

Some argue that the quality of information from aggregated data is comparable to that obtained from encounter data and that most of the purposes for collecting encounter data can be satisfied through the use of aggregate reports or measures.

C. ADDRESSING OBJECTIONS TO ENCOUNTER DATA COLLECTION

In this guide we have recommended processes which should address these issues.

1. Cost

There are always costs associated with the collection of information. Nevertheless, much of the infrastructure needed to generate encounters should already exist within a provider's

organization, in part because providers need very similar systems to generate claims. The issue of cost appears larger because many providers were promised a "no data policy" in return for joining certain MCOs. Providers, MCOs, and Medicaid agencies need information to assess the access to and quality of the services being provided. Most providers object to providing encounter information because they receive nothing in return. Medicaid agencies and MCOs should work to return as much information as possible to providers directly to help improve their practice. This information should be at the provider, organization, and overall program level.

2. The Usefulness Of Measures

Healthcare measures and methodologies are evolving. Many methodologies and analyses that were not considered possible with claims data five years ago are now commonly accepted. For instance, patient severity is routinely calculated using information from claims data. For years it was assumed that the level of information needed to perform this type of analysis could only be found in the medical record. Empirical research has shown that claims can do an adequate job. Acceptance of claims as an excellent source of information means that analysis can be completed faster and on all patients rather than on a small sample. Similar methodological breakthroughs will be achieved with encounter data once it is routinely collected and used. Much of the work to be done in managed care revolves around the analysis of patients over time, comparisons of the treatments which they received for different conditions, and evaluations of their outcomes based on these treatments. Encounter data can easily be adapted to this type of analysis. The challenge for Medicaid agencies is teaching policy makers in their states the appropriateness of these methodologies and measures.

3. Timeliness

Medicaid agencies must rethink the issue of time and encounter data. Many agencies were reluctant to mandate short timeframes for data submissions since it was so different from the requirements for fee for service claims. Providers and Medicaid agencies must realize that the payment time parameters have also changed. Providers will already have been paid for the services that they are now reporting. Medicaid agencies must have the information to document its expenditures.

4. Feedback

Quality improvement programs, however characterized, depend upon timely and relevant feedback for their operation. Several strategies for feedback have been presented in this guide, including reporting (at many points in the process), standing committees, and access to data warehouses and decision support systems.

5. The Adequacy Of Aggregate Data And HEDIS

Aggregate measures such as HEDIS are valuable tools, but insufficient for the purposes of program management. Aggregate measures are designed to assist payers in comparing the performance of managed care organizations on particular measures. Because they focus on a

limited set of measures, they do not provide the flexibility to explore other program-related issues. Further, most aggregate performance measures are reported annually, thus limiting their timeliness for program management.

Most aggregate measures focus on continuously enrolled populations. As a result, such measures may exclude a large percentage of Medicaid enrollees in many States. Some aggregate measures combine multiple services into a single index (e.g., the HEDIS childhood immunization measure combines information on 14 individual immunizations per child). This makes it impossible to detect problems with particular services (e.g., specific immunizations).

Finally, aggregate measures do not provide enough detail to support analyses of correlating factors and root causes. This precludes the ability to examine utilization and outcome differences in vulnerable subpopulations of the Medicaid program. In order to go beyond the aggregate measure, a finer-grained level of detail is needed; **this is supplied by encounter-level data.**

INTRODUCTION TO APPENDICES

The following appendices have been compiled to assist the States in delving further into the topics discussed in this guide:

Appendix A: Bibliography. This is a limited bibliography of sources used in the creation of this Guide. It also lists some important reports and documents that use or discuss managed care encounter data.

Appendix B: Glossary of Terms. This section contains a glossary of commonly used terms relating to managed care and encounter data.

Appendix C: Excerpts from the Medicaid Statistical Information System (MSIS) Tape Specifications and Data Dictionary. This appendix contains descriptions of MSIS data file elements and Medicaid eligibility categories. It is an excerpt from the MSIS FY99 file documentation, which can be found on the HCFA Website.

Appendix D: Medicare-Medicaid Common Data Initiative Data Dictionary. This appendix contains the Common Data Initiative data dictionary.

Appendix E: Electronic Data Submission: Synopsis and Sample Formats. This Appendix includes examples of record formats for inpatient encounters, outpatient encounters, prescription drug services, and EPSDT services. The inpatient and outpatient encounter formats are HCFA's standard UB92 and HCFA 1500 forms. The prescription drug format is the industry standard, which was developed by the National Council for Prescription Drug Programs, NCPDP. The EPSDT form was obtained from Oklahoma.

Appendix F: Recommended Data Quality Checks. This appendix contains two examples of data quality checks, both of which were developed by The MEDSTAT Group for other projects. The first is a set of guidelines for data quality for many of the data elements included in the Medicare-Medicaid Common Data Initiative encounter record. These guidelines were developed for the Standard Medicaid Research File (SMRF) data files that are maintained and disseminated by HCFA's Bureau of Data Management Strategies. The second example contains data quality checks that were developed by MEDSTAT for a project that requires the collection, editing and merging of multiple HMOs' encounter and enrollment data.

Appendix G: MCO Baseline Assessment: Information System Capabilities. This assessment document was created by The MEDSTAT Group for use in projects that require advance information regarding a MCO's information system capabilities. Its greatest use is in identifying potential areas of weakness that merit further investigation, perhaps through a site visit to the plan.

Appendix H: MCO Information System Review Structured Interview Guide. This guide was designed to use in conjunction with MCO site visits.

Appendix I: Data Quality Assessment Reports. This appendix contains three data quality assessment reports:

- A monthly "submission edit report" from New York, summarizing encounter data submission edit results.
- A New York report that compares one MCO's submissions to county and state totals.
- Excerpts from an MCO's data submission feedback report, called a "critical element report," prepared by a health information company.

Appendix J: MCO/Fee-For-Service Comparison Measures/Reports. This appendix contains several examples of MCO/fee-for-service comparisons:

A. *Task 6: HMO/Fee-For-Service Comparison Measures/Reports.* This report was prepared for the Minnesota Department of Human Services by The MEDSTAT Group, under contract from HCFA.
B. HMO/Fee-for-Service Comparison Reports obtained from Wisconsin Medicaid.
C. *Medicaid HMO and Fee-for-service Comparison Strategy: Methodological Issues.* This document discusses issues in the calculation of HEDIS-type measures using fee-for-service data, and gives examples.

Appendix K: The Value of Encounter Data Compared to Medical Record Data For Studies of Medicaid Managed Care.

Appendix L: Arizona AHCCCS Quarterly Quality Initiative Reports. Available at http://www.Ahcccs.state.az.us/Content/Resources/Publications/QualInit/.

Appendix M: "TennCare ER Use Shows Substantial Drop," press release, September 2, 1998.

Appendix N: TennCare Report on Women's Health Issues, December, 1997 (Table of Contents).

Appendix O: Delivery of Preventive Services and Ambulatory Care: A Report of Regional and Managed Care Organization Variation, External Quality Review Organization, First Mental health, Inc., December, 1997; for TennCare. TennCare-related reports are available at http://www.state.tn.us/health/tenncare.

Appendix P: TennCare Inpatient Admissions Due To Diabetes: A Report of Regional and Managed Care Organization Variation, External Quality Review Organization, First Mental Health, Inc.

Appendix Q: Pediatric Asthma Inpatient Admissions and ER Visits: A Report of Regional and Managed Care Organization Variation, External Quality Review Organization, First Mental Health Inc.

Appendix R: "Wisconsin Outcomes: Measuring the Performance of Department of Health and Family Services Programs" (excerpts). Available at http://www.dhfs.state.wi.us/Outcomes.

Appendix S: Wisconsin Medicaid HMO Comparison Reports, 1996 (excerpts).

Appendix T: California Medi-Cal MCO utilization reports (excerpts).

Appendix U: Examples of EPSDT reports .

Appendix V: Methodology for Calculating Medicaid Performance Measures Issues Concerning Varying Lengths of Eligibility.

Appendix W: "HEDIS 1999 Reporting Set Measures by Domain," from http://www.ncqa.org/news/h99meas.htm.

Appendix X: Overview of CONQUEST Version 2.0.

Appendix Y: Local Service Codes for Home and Community Based Services in Arizona Long Term Care System (ALTCS). This appendix lists the Level III HCPCS codes used by Arizona for their Home and Community Based Services.

Appendix Z: Local Service Codes for Home and Community Based Services in the Texas Star+Plus Program. This appendix lists the Level III HCPCS codes used by Texas for their Home and Community Based Services.

Appendix AA: Local Service Codes for Home and Community Based Services in the Minnesota Senior Health Options (MSHO) Program. This appendix lists the Level III HCPCS codes used by Minnesota for their Home and Community Based Services.

Appendix BB: File Format for the Reporting of Nursing Home Facility Encounters in the Texas Star+Plus Program. This appendix provides the file format for nursing home facility encounters used by the Texas Star+ Plus Program.